REPORT RESUMES

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FACTORS ASSOCIATED WITH THE ACHIEVEMENT OF ADULT STUDENTS.

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AN ATTEMPT WAS MADE TO EVALUATE WHETHER (1) BIOGRAPHICAL DATA AND (2) MEASURES OF APTITUDES, ABILITIES, INTERESTS, AND MOTIVATIONAL CHARACTERISTICS ARE RELATED TO THE ACADEMIC SUCCESS OF ADULT STUDENTS. DETERMINATIONS WERE MADE, ALSO, ON WHETHER MEASURES OF SUCH DATA AND CHARACTERISTICS CAN BE USED TO PREDICT ACADEMIC SUCCESS IN THE SEVERAL AREAS OF INSTRUCTION NORMALLY FOUND IN AN EVENING ADULT EDUCATION PROGRAM. A 55-QUESTION, BIOGRAPHICAL INFORMATION BLANK WAS COMPLETED BY MORE THAN 8,000 ADULT STUDENTS DURING TWO REGISTRATION PERIODS OF THE UNIVERSITY COLLEGE EVENING PROGRAM AT WASHINGTON UNIVERSITY. IN ADDITION, APPROXIMATELY 400 STUDENTS (1) RECEIVED A 6-HOUR BATTERY OF VOCATIONAL-EDUCATIONAL APPRAISAL TEST, (2) REVIEWED, INDIVIDUALLY, THEIR TEST SCORES WITH A PROFESSIONAL COUNSELOR, AND (3) COMPLETED TESTS TO MEASURE ACADEMIC ACHIEVEMENT IN AT LEAST ONE CLASS AT THE BEGINNING OF THE SEMESTER AND AGAIN AT THE END. RESULTS INDICATED THAT THE USE OF BIOGRAPHICAL INFORMATION, PLUS THE STANDARD BATTERY OF TESTS, FORMED A GOOD BASE FOR ACHIEVEMENT PREDICTION. COUNSELOR JUDGMENTS IN THIS PROJECT APPEARED TO HAVE DOUBTFUL PREDICTIVE VALIDITY. (JM)

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No. 1338

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WASHINGTON UNIVERSITY

UNIVERSITY COLLEGE AND THE DEPARTMENT OF PSYCHOLOGY

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FACTORS ASSOCIATED WITH THE ACHIEVEMENT OF ADULT STUDENTS

King M. Wientge
and
Philip H. DuBois

Prepared at Washington University, St. Louis
under Cooperative Research Project No. 1338 of the
Office of Education, U. S. Department of Health,
Education and Welfare

1964

ADULT EDUCATION RESEARCH OFFICE

WASHINGTON UNIVERSITY
UNIVERSITY COLLEGE
DEPARTMENT OF PSYCHOLOGY
ST. LOUIS, MO.

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FOREWORD

Adult educators are faced with the pressure of ever-increasing enrollments in the evening college divisions which they administer. One hears plaintive voices from academic faculties that the quality of education is being sacrificed for quantity after a specified hour, such as 5:00 p.m. The few studies that exist indicate that degree recipients in evening programs are as talented in general as are the degree recipients in day programs. However, there are thousands of participants in evening programs who neither seek nor desire a degree. Most often they attend classes to achieve upward mobility in their chosen vocation. Members of this group may attend evening school for several years, taking a carefully, but narrowly, planned sequence of courses in order to increase their level of vocational proficiency. Others attend because of a desire to participate in learning activities on a college campus and are often found in non-credit courses, but on many campuses are found in a wide variety of credit courses as well. There is a third and rather numerous group, consisting of young adults who have completed high school and see the evening division program as a chance for obtaining a degree and commensurate status in the community, in their social life and on their jobs.

These brief descriptions highlight the heterogeneity of the population which enters the portals of the evening divisions throughout the country. The numbers are great. A recent survey by the National Opinion Research Center indicates that in total numbers adult students exceed all other segments of the student population. However, most of these individuals are part-time students.

The factors involved in education for adults need observation and systematic experiment. It is necessary to begin at the beginning. Therefore, much of the present study is descriptive of the population of a large urban evening division. It also attempts to relate factors such as biographical and personal information and objective test data to academic success. A study of such factors as they relate to the adult learner in the evening division of an urban university is essentially the theme of our report.

We are most grateful for the splendid cooperation of the University College faculty, student body and administrators for permitting us to move into an on-going educational situation and collect data during two registration periods from thousands of evening school registrants and subsequently during on-going class situations. The following pages are dedicated to faithful reporting of the experiences and data which reflect our efforts in the past two years.

King M. Wientge
Philip H. DuBois

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STAFF AND PERSONNEL

We wish to express our appreciation to all Project 1338 staff, conference participants and advisory consultants whose efforts made possible the completion of Project 1338. In the Appendix on p. xxvii are listed the participants in the two conferences conducted at Bromwoods, the residential center of Washington University, under the auspices of Project 1338. Also on p. xxvii are listed the professional counselors who conducted the feedback interviews of the Vocational-Educational Appraisal Test battery.

To the graduate students who served as test administrators of the pre- and post-instruction achievement test we are duly grateful.

Our own regularly participating staff follows. These are the workers whose concerted efforts moved the project from its conceptual beginnings to the publication of this document, the final report.

PROJECT 1338 STAFF

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I. AN OVERVIEW

Cooperative Research Project 1338 concerns the relationships of psychological characteristics of adult students to their academic success. This involved two basic projects. The first included the collection of biographical information during two successive semester registrations from all registrants in University College, the evening division of Washington University.

The development of the biographical inventory and the results of relating this information to academic achievement are reported in considerable detail.

The second major concern was the evaluation by objective measures of interests, aptitudes, abilities and motivational characteristics of two samples of volunteer students obtained during each semester, and the relation of these measures to academic success.

Academic success was measured in two ways: A) through a "residual gain" score in classroom learning, and B) as final class grade. In order to obtain the measures of pre- and post-achievement needed to measure "residual gain," it was necessary to test in a large number of on-going classes during the first week and the last week of the semester.

The problems of handling the many phases of human relations and communication that entered into a large scale data collection program of this kind and how these problems were handled are covered in a section of the report under Data Collection, Human Controls.

The four basic hypotheses evaluated by the study are:

1. Biographical data are positively related to the academic success of adult students.

2. Measures of aptitudes, abilities, interests and motivational characteristics are positively related to the academic success of adult students.

3. Measures of biographical data may be used to predict academic success in the several areas of instruction normally found in an evening division.

4. Measures of aptitudes, abilities, interests and motivational characteristics may be used to predict academic success in the several areas of instruction normally found in an evening division.

II. PROCEDURES

A. Data Collection - The Biographical Information Blank.

1. The Biographical Information Blank (BIB) was developed by the project staff for administration to *the entire student body* of the University College during the spring semester registration of 1962 and to new enrollees in the fall semester of 1962-63. It was designed to include items which would be considered non-threatening and which would elicit information from adult students without creating resistance that might block answers. Biographical information collected in clinics and from individuals in clinical-type situations can be much more probing with respect to personal and private matters than can a publicly administered instrument of this kind. The BIB was designed with the statement of

purpose of the research briefly printed in a paragraph on the face of the document and with the average time required for completion, 10 minutes and 30 seconds, printed underneath in bold type. The 55 items were selected from the areas of personal data, social activities, educational background, vocational activities, and avocational activities.

2. The Biographical Information Blank.

Exact content of the Biographical Information Blank is reproduced on the following pages. In practice the blank was a printed document, each page of which was approximately 5" x 8" in size. The blank was a four page single-fold, printed in black ink on green paper.

3. The process of collecting the biographical information from more than 8,000 adults during two registration periods required obtaining cooperation and assistance from the staff of University College. Careful planning went into the procedures to be used during the registration time. This planning involved both advance preparation and the direction of the operation during registration.

The advance preparation consisted of informing the adult population from which University College draws its students of the general nature of the research project, and specifically of the plan to collect biographical data during the registration period. The article which provided this information appeared in the Adult Education Bulletin, a quarterly publication of University College. The Adult Education Bulletin is mailed before registration to all students who had been enrolled in either of the

(Text continued on Page 7)

WASHINGTON UNIVERSITY

St. Louis, Missouri

The University College | The Department of Psychology

The United States Office of Education

PROJECT 1338 - RESEARCH IN ADULT LEARNING

The University College and the Department of Psychology are recipients of a research grant from the U. S. Office of Education to study the psychological characteristics of adult students related to their academic success. A systematic study, to be carried on during the next two years, is designed to develop findings of significance for individual adult students in the future and for educators concerned with planning programs of adult education.

This Biographical Inventory will provide the data essential to identify the group characteristics of the University College student population. Large scale group statistical procedures will be utilized so that the information obtained from the individual student is merged into group statistical results. The cooperation of all adult students is essential for the success of Project 1338. Your careful completion of this blank will be much appreciated.

INSTRUCTIONS:

PLEASE COMPLETE ALL ITEMS IN THE INVENTORY CAREFULLY

AVERAGE TIME REQUIRED FOR COMPLETION — 10 Min. 30 Sec.

CHECK ☐Mr. ☐Mrs. ☐Miss

Last Name (print) First Middle (spell out)	Height (ft. and in.)	Weight

1. Age: Under 20 yrs.___ 21-22___ 23-24___ 25-29___ 30-39___ 40-49___ 50-59___ 60 or over___
2. Marital status: Single___ Married___ Divorced___ Separated___ Widowed___
3. Number of individuals residing in your household (include yourself) 1___ 2___ 3___ 4___ 5___ 6 or more___
4. Number of individuals dependent upon you for support (exclude yourself) 0___ 1___ 2___ 3___ 4___ 5___ 6 or more___
5. Wife's (or husband's) attitude toward your attendance at University College: Very encouraging___ Encouraging___ Somewhat encouraging___ Not encouraging___ Not married___
6. How is your tuition paid? You pay it all___ You pay part___ Employer pays all___ Employer pays part___ Family pays all___ Family pays part___ Other arrangements (specify)___
7. How has your general health been in the last three years: Excellent___ Very good___ Average___ Poor___ Very poor___
8. How do you sleep: Very well___ Better than average___ Average___ Not very well___
9. No. college hours completed to date: 0-30___ 31-60___ 61-90___ 91-120___ More than 120___
10. Purpose for taking courses in University College (check items which apply): Better job___ Personal satisfaction___ Employer's request___ Develop hobby___ Complete Bachelor degree___ Complete Certificate___ Other (specify): ___

11. Your occupation: Unskilled____ Semi-skilled____ Skilled____
Farmer____ Business man____ Professional man____
Other (specify): ____________________________

12. Your current occupation demands: Almost exclusively manual
work____ Almost exclusively intellectual work____
A combination of manual and intellectual work____

13. Do you supervise or direct the work of others: Yes____ No____
If yes, how many: 1-5____ 6-20____ 21-50____ More than 50____

14. Do you work for pay on more than one job: Yes____ No____
If yes, how many: 2____ 3____ 4 or more____

15. How do you feel your progress on your job(s) has been:
Exceptionally good____ Good____ Average____ Poor____

16. Are you a member of fraternal organizations such as the Elks,
Masons, K. of C., etc.: Yes____ No____
If member, do you actively participate: Yes____ No____
Are you or have you been an officer: Yes____ No____

17. Membership in community activities such as P.T.A., Neighborhood
Associations, etc.: Yes____ No____
If member, do you actively participate: Yes____ No____
Are you or have you been an officer: Yes____ No____

18. Membership in career organizations, business and professional
organizations, labor unions, etc.: Yes____ No____
If member, do you actively participate: Yes____ No____
Are you or have you been an officer: Yes____ No____

19. Membership in political groups, Republican and Democratic
Clubs, etc.: Yes____ No____
If member, do you actively participate: Yes____ No____
Are you or have you been an officer: Yes____ No____

20. Total of memberships in groups listed in 16, 17, 18, and 19:
0____ 1____ 2____ 3____ 4____ 5 or more____

21. Interest in religion as evidenced by attendance at church or
synagogue: Weekly____ Occasionally____ Rarely____ Never____

22. Most of your life has been lived in: A city of 100,000 or more____
A city of 10,000 to 100,000____ A city of 1,000 to 10,000____
A town of less than 1,000____ In the country____

23. Home owner: Yes____ No____

24. During the past year, check how many times you attended:
Art exhibits: 0 or 1____ 2-5____ More than 5____
Athletic events: 0 or 1____ 2-5____ More than 5____
Classical concerts: 0 or 1____ 2-5____ More than 5____
Popular concerts: 0 or 1____ 2-5____ More than 5____
Lectures (other than professional) 0 or 1____ 2-5____ More than 5____

25. No. of hours of participation per week in active recreation (sports,
hiking, etc.): None____ 1-5____ 6-10____ 11-15____ 16 or more____

26. No. of hours of participation per week in passive recreation (cards,
chess, etc.): None____ 1-5____ 6-10____ 11-15____ 16 or more____

27. No. of hours per week you spend watching T.V.: 0____ 1-3____
4-6____ 7-9____ 10 or more____

28. Do you like to work crossword puzzles and magazine quizzes:
Yes____ No____

29. How many of the following do you regularly read: Reader's Digest,
Pageant, Saturday Evening Post: 0___ 1___ 2___ 3___

30. How many of the following do you regularly read: Atlantic Monthly,
Harper's, National Geographic, Saturday Review, Fortune,
New Yorker: 0___ 1___ 2___ 3___ 4___ 5___ 6___

31. How do you rate yourself as a reader in terms of speed and comprehension: Excellent___ Good___ Average___ Poor___

32. Do you have the use of a Public Library card: Yes___ No___
How long: 1 yr.___ 2 yrs.___ 3 yrs.___ 4 or more yrs.___
33. No. of books of fiction read in the past 12 months (not for school):
1-5___ 6-10___ 11-15___ 16-20___ 21 or more___
34. No. of non-fiction books read in the past 12 months: None___
1-5___ 6-10___ 11-15___ 16-20___ 21 or more___
35. Estimate No. of books you personally own: 0-24___ 25-49___
50-74___ 75-99___ 100 or more___
36. How many of your family (mother, father, sisters, brothers) are high school graduates: 0___ 1___ 2___ 3___ 4___ 5 or more___
37. How many of your family (mother, father, sisters, brothers) are college graduates: 0___ 1___ 2___ 3___ 4___ 5 or more___
38. No. of brothers and sisters: 0___ 1___ 2___ 3___ 4___ 5 or more___
39. Father's occupation: Unskilled___ Semi-skilled___ Skilled___
Farmer___ Business man___ Professional man___
40. Father's education: 8th Grade or less___ 9,10,11___ 12___
College: 1___ 2___ 3___ 4___ Graduate: 1___ 2___ or more___
41. Mother's education: 8th Grade or less___ 9,10,11___ 12___
College: 1___ 2___ 3___ 4___ Graduate: 1___ 2___ or more___
42. Your education: 8th Grade or less___ 9,10,11___ 12___
College: 1___ 2___ 3___ 4___ Graduate: 1___ 2___ or more___
43. Last school attendance prior to this semester: Last semester___
1 yr. ago___ 2 yrs. ago___ 3 yrs. ago___ 4 yrs. or more ago___
44. Rank in class in high school (estimate if not accurately known):
Top quarter___ 2nd quarter___ 3rd quarter___ 4th quarter___
45. Your grades reflect your ability fairly accurately (check one):
Almost always___ Most of the time___ Not very often___ Almost never___
46. Average number of hours study per week at present time: 1-4___
5-9___ 10-14___ 15-19___ 20-24___ 25 or more___
47. Subject matter area you like most (check one): Science___
Social Studies___ Foreign Language___ English___ Math___
48. Subject matter area you like least (check one): Science___
Social Studies___ Foreign Language___ English___ Math___
49. If native born, do you speak a foreign language (learned at school)
Yes___ No___; fluently___ With average fluency___ Less than average fluency___ If foreign born, your native tongue:___
50. If native born, do you read a foreign language (learned at school)
Yes___ No___; Excellent reader___ Average reader___
Less than average reader___
51. What job would you like to have in 5 years (check appropriate items)
The one you have now___ A job supervising others___ A job working alone___ A job with more money and responsibility___
Other (specify) ____
52. No. of cars in your family: 0___ 1___ 2___ 3 or more___
53. Model year(s) of car(s) you own: 1952 or earlier___ '53___ '54___
'55___ '56___ '57___ '58___ '59___ '60___ '61___ '62___

Optional Items: Do not fill in if you prefer not to volunteer the information requested.

54. Your estimated annual income from all sources is:
___less than $2000
___$2000 or more but less than $5000
___$5000 or more but less than $8000
___$8000 or more but less than $11000
___$11000 or more
55. Amount of life insurance: None___ $1000-5000___ $5001-10000___
$10,001-20,000___ More than $20,000___

preceding two semesters and additionally is mailed to business and industrial establishments in the Greater St. Louis area, which are the source of many of the attending students. The total number of Adult Education Bulletins sent out at one mailing is 17,000.

The second phase involved the training of the registration personnel to develop and maintain attitudes which would encourage the adult registrant to complete the biographical information form. Several training sessions were held in which the registration staff became acquainted with the nature of the project and were given a Biographical Information Blank to examine. Questions were answered in detail. The Dean of University College and his administrative staff were most cooperative in encouraging the registration staff to attempt to collect the forms carefully.

A representative of the research staff was assigned to duty at the registration area, and was available when necessary to discuss items or answer questions raised by the adult registrants.

The problem of human relations involved in collecting the biographical information was viewed as a variable that needed careful consideration and control to achieve a reliable degree of accuracy. Subsequent discussions with randomly chosen adults who had completed the blank indicated that the attitude of the registration staff was such that the registrants accepted the form and completed it reliably and accurately, with something of a feeling of interest in being involved in an extensive research project.

The 55 numbered items of the Biographical Information Blank were coded either as dichotomous or continuous variables

in accordance with the item content. The instructions for coding each item for punch-card operation are given in the Appendix. The coded items were key-punched on 73 columns of a tabulating card and converted to correlation matrices via a computer routine which permitted unequal N's. The problem of unequal N's arose as the result of occasional oversights or failures to complete all items by some subjects. There was no consistent pattern of omissions, that is, no items were left blank in significantly greater numbers than others.* The most logical assumption seems to be that the items did not apply or the omissions resulted from oversight on the part of the student in completing the forms. That this occurred was not entirely unexpected since the pressures of enrolling great numbers of adults during the registration periods is such as to make a careful checking of all items a difficult if not impossible task. The reduced N's were not significantly large as our analysis of the frequency distribution indicated. However, a substantial reduction in the matter of computer time and expense would have resulted if all blanks had been completely filled out.

It is evident that to obtain information from large populations great care must be taken to insure that optimal measures are in effect for checking and obtaining maximal item completion.

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*This statement is not intended to include the optional items, 54 and 55.

B. Data Collection - Aptitudes, Interests, Abilities and Motivational Characteristics.

1. The objective measuring devices used to obtain data for the evaluation of the interests, aptitudes, abilities and motivational characteristics of two samples of student volunteers, one each semester, follow:

   a. Wesman-Personnel Classification Test.

   b. Employment Aptitude Survey.

      Test 4 - Visual Speed and Accuracy
      Test 5 - Spatial Visualization

   c. Cooperative Reading Test - 1960 edition, Form 1C.

   d. Bennett Mechanical Comprehension Test, Form AA.

   e. Strong Vocational Interest Blank.

      Form Me - Males
      Form We - Females

   f. Project TALENT Tests.*

      1. Information Test - Part I
      2. Information Test - Part II
      3. Interest Inventory

The battery described above was designated the Vocational-Educational Appraisal Test for purposes of indicating the nature of the battery to interested students. The volunteers were enrolled in at least one class in which pre- and post-measures of achievement had been obtained. In the spring semester of 1962,

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*Project TALENT Tests were used with permission of Dr. John T. Dailey, Project TALENT Office, University of Pittsburgh.

236 students completed the six hour test battery and were given one or more test interpretation interviews by a professional counselor. In the fall semester of 1962-63, the number completing the Vocational-Educational Appraisal Test battery was 279.

Students who completed the Vocational-Educational Appraisal Test battery were scheduled for a review of the test scores with a professional counselor. During this interview the counselor attempted to assess motivation on a form developed by the Project staff, designated the Counselor-Appraisal Interview Form.

The procedure used here may be thought of as approximating what realistically would occur in an evening division which required an entrance test battery, followed by test interpretation and discussion of test results with a student applicant. The Counselor-Appraisal Interview forms were completed by each counselor at the conclusion of the first hour interview with a client. If the client desired subsequent interviews, these were arranged at convenient times. Only a few of the clients requested additional sessions. However, from time to time, calls are received in the Adult Education Research Office requesting that the test results be forwarded to an employer or discussed again with the student-client. Arrangements have been made to comply with these requests.

In order to evaluate rater reliabilities, consecutive interpretive sessions were conducted by separate individual counselors rating independently. The following chart indicates

(Text continued on Page 12)

PROJECT 1338 - RESEARCH IN ADULT LEARNING

COUNSELOR APPRAISAL OF STUDENT MOTIVATION - FALL 1962

Counselor____(Do not permit student to see this form.)

STUDENT'S NAME: Mr[] Mrs[] Miss[] ____
Last Name First Middle

Rate each counselee with respect to each item by placing a check mark on the appropriate horizontal line at any point which represents your evaluation of the student. It is not necessary to locate it at any of the division points or above a descriptive phrase.

I. Principal reason for attending University College. Reason for continuing education (perseveration).

4	3	2	1
Personal Improvement	Vocational Improvement	Limited Educational Goal	Exploratory

II. Student's Appraisal of His (Her) Instructor(s).

1	2	3	4	5
Critical Unfavorable	Semi-critical Some Reservation	Adequate Feels OK about Instruction	Favorable Generally Good Feeling	Very Favorable

III. Level of motivation. Strength of determination and persistence.

5	4	3	2	1
Intense Determination and Persistence	Moderately Strong Motivation	Neither Strong nor Weak Motivation	Tends to have Weak Motivation	Very Weak Motivation Likely Drop-out

IV. Self-perception about ability or aptitude for college.

1	2	3	4	5
Decidedly Over-rates Self	Tends to Over-rate Self	Reasonably Congruent with Test Results	Tends to Under-rate Self	Definitely Under-rates Self

V. Attitude toward evening courses and University College in general.

5	4	3	2	1
Unusually Favorable, Integrates Courses with Life Pattern	Favorable Likes Courses and Instructors	Undecided at this Point	Indicates Minor Reservations	Negative, May discontinue

the number of counselor ratings and of reliability check ratings.

SPRING SEMESTER - 1962

Number of counselor ratings	236
Number of reliability check ratings	63

FALL SEMESTER - 1962-63

Number of counselor ratings	279
Number of reliability check ratings	60

This part of the research design required that the information be complete on the usable cases. For a case to be usable the requirements were that the student must have completed: the Biographical Inventory Blank; achievement measures (before and after instruction); the Vocational-Educational Appraisal battery; and at least one Counselor Appraisal interview. In the spring semester of 1962 there were 179 completed cases. In the fall semester of 1962-63 there were 240 such cases. These 419 cases provided the two samples for the analyses.

The coding instructions for this analysis are given in the Appendix, p. xiii. Items were coded as dichotomous or continuous variables, in accordance with the nature of the item. Eleven of the Strong Interest Scales, which are common to both the male and the female forms, were utilized. Thirty-two variables were coded and correlated with final course grade as the criterion. The matrices of correlations for both samples are contained in the Appendix, pps. iii, iv.

C. Data Collection - Criterion Measure of "Residual Gain."

One of the criterion measures for academic success used in this study is the regressed score or "residual gain." This measure involves subtracting from the final score that portion which is predictable from the initial or pre-instruction score. The data necessary to compute this were obtained by testing a representative sample of classes with different forms of achievement tests* at the beginning of the course and at the end of the course. The tests marked with an asterisk were constructed at Washington University. The chart which follows shows the college credit classes tested and the number of students tested at the beginning and end of each subject during each of the semesters studied.

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*See list of achievement tests in Appendix, p. xxvi.

College credit classes tested at beginning and end of semester to obtain measures of "residual gain":

Spring Semester - 1962	Number of Students Tested Pre-Test	Post-Test
Accounting I	105	73
Accounting II	101	68
Intermediate Algebra	167	113
English, Preparatory	28	22
Biology, First Year	34	32
Inorganic Chemistry	60	46
French, First Year	31	21
French, Second Year	8	7
Great Books	24	18
History, American	32	33
Personnel Management	25	18
Physics, Elementary	71	67
General Psychology, First Semester	143	134
General Psychology, Second Semester	150	142
Spanish, First Year	26	23
Spanish, Second Year	7	8
Trigonometry	112	78
TOTALS:	1124	903

Fall Semester - 1962-63	Pre-Test	Post-Test
Accounting	257	151
Intermediate Algebra	263	211
Basic Natural Science	51	34
Biology	67	44
Chemistry	98	68
English Composition	334	241
General Physics	165	105
General Psychology, First Semester	284	267
General Psychology, Second Semester	158	126
Trigonometry	152	102
TOTALS:	1829	1349

D. Data Collection - Summary

The following summarizes the data collected during the period of the project:

I. Biographical Inventory Blank:

Spring Semester 1962 5,009

Fall Semester 1962-63 3,769

II. Number of Students tested at beginning and end of semester to obtain measures of "residual gain":

Spring Semester 1962 Pre-Test 1,124 Post-Test 903

Fall Semester 1962-63 Pre-Test 1,829 Pre-Test 1,349

III. Vocational-Educational Appraisal Battery:

Spring Semester 1962 Number of students completing battery: 236

Fall Semester 1962-63 Number of students completing battery: 279

IV. Counselor Ratings of Motivational Characteristics:

Spring Semester 1962 Counselor ratings 236
Reliability check ratings 63

Fall Semester 1962-63 Counselor ratings 279
Reliability check ratings 60

V. Complete Cases Usable for the Intensive Study:

(Completed: Biographical Inventory Blank; pre- and post-achievement measures; Vocational-Educational Battery; counseling interview(s); and final course grade.)

Spring Semester 1962 179

Fall Semester 1962-63 207

TOTAL 386

E. Data Collection - Human Factors

Of concern to the project staff was the necessity of obtaining instructor cooperation and participation. This was deemed essential because the project design appeared as if an attempt might be made to evaluate instructor competency, through measuring the student knowledge of the course during the first week of classes and again during the final week of classes. In essence, as some students and instructors indicated, the project gave a final examination the first week of classes and a final examination the last week of classes. The personal contacts with the instructors in the many classes in which the project conducted tests were valuable. Most instructors were secure, friendly and cooperative, but a few seemed to manifest some insecurity and anxiety. When such resistance or concern seemed apparent, the research psychologist made a patient and careful explanation to develop the rapport which would permit the instructor to accept the testing program, and hence, if not to encourage, at least not to discourage the students from giving their best efforts during the test administrations. In general, prior contact with the instructors and careful explanation of the nature of the project led to acceptance and smooth operational procedures, including the testing in the first week of classes and in the final week of classes.

Another aspect of the human control problem was obtaining volunteer subjects to take the six hour test battery of psychological objective tests (reduced to three hours the second semester). Adult students are not willing and are unable to give enough time from their busy schedules to enroll in a test program of this kind in numbers comparable to day students. The day student, who is on campus for the full day, is in one sense a captive subject, who will often be given extra points for his participation in a psychological experiment. To our adult population the only encouragement or enticement that Project 1338 could offer was that of a feedback of their test data in a subsequent counseling interview. The anticipated numbers of volunteers were not obtained in spite of several invitations to students in the classes in which the beginning and end-of-course tests were administered. The total number of volunteers, 515, was slightly more than 50% of the number anticipated. Strong inducements seem necessary. Perhaps actual pay by the hour would recruit the desired numbers.

A fourth variable of importance in the area of human interaction involved the selection of personnel to administer the pre- and post-course tests and to conduct the feedback interviews of the Vocational-Educational Appraisal Test batteries. In general, the employment of personnel to work with adult populations in evening division classes is an operation which requires skill and understanding of adult student needs. Test administrators, and counselors selected for work with adults, must possess certain qualifications of maturity and poise. The research assistants who did the testing in the on-going class situations were individuals of mature appearance and known stability. They were advanced psychology graduate students and other experienced testers of mature years and demeanor known to members of the project staff. These individuals were given careful indoctrination and training periods prior to administering the tests in any classroom situation. Questions were answered and emphasis was placed on the different qualities and expectations of the adult students. The test to be administered and the test materials were given to each test administrator in advance of going into the classroom situation so that time was allowed for the administrator to review the manuals and instructions and check the test materials, such as answer sheets and pencils.

The counselors selected to conduct the feedback interviews were individuals of maturity and experience in counseling. They were screened by a committee of the staff and they were agreed upon as being individuals of satisfactory maturity and experience to conduct the counseling sessions. As judged by a random sample, the counselees who completed the Appraisal battery and interviews were generally satisfied—they felt that the counselors did a good job in interpreting the test data to them and in answering their questions.

III. RESULTS

The following matrices of correlations are presented in the Appendix.

A. Biographical Data and Class Grade.

1. Biographical data and class grades, Spring Semester 1962 (Sample 1) with 73 variables and 5009 cases.

2. Biographical data and class grades, Fall Semester 1962-63 (Sample 2) with 73 variables and 3769 cases.

B. Vocational-Educational Appraisal and Class Grades.

1. Interests, abilities, aptitudes, motivational characteristics and class grades, Spring Semester 1962 (Sample 3) with 44 variables and 179 cases.

2. Interests, abilities, aptitudes, motivational characteristics and class grades, Fall Semester 1962-63 (Sample 4) with 32 variables and 207 cases.

Analyses of the matrices of correlations listed under A. and B. above follow.

A. Biographical Data and Class Grade.

1. When the 70 biographical items were correlated with mean course grade, 21 were found to have validities of .05 or more for predicting mean course grade in both samples.

The items and the correlation coefficients for the initial data and the replication are found in Table 1.

Table 1

Items with First Sample r's of .05 or More with Mean Course Grade

	Original (N = 5009)	Replication (N = 3769)
Age	.21	.20
Marital Status	.13	.15
Number of Dependents	.10	.08
Number of College Hours Completed	.14	.21
Purpose for Courses-Personal Satisfaction	.10	.09
Occupational Level	.14	.19
Intellectual Demands of Current Occupation	.10	.10
Supervision of Others	.06	.10
Participation in Community Activities	.08	.12
Participation in Career Organizations	.07	.07
Total Participation in Organizations	.09	.08
Religious Interest-Church Attendance	.05	.05
Home Owner	.14	.11
Art Exhibits Attended	.06	.09
Self-Rating of Reading (Speed and Comp.)	.10	.09
Estimated Number of Books Owned	.12	.14
Education of Respondent	.12	.19
Rank in Graduating Class (High School)	.20	.23
Self-Rating of Grades Earned	.21	.17
Estimated Annual Income	.16	.16
Amount of Life Insurance	.07	.05

The correlation of the sum of these 21 items, each weighted equally, with mean grade as the criterion, is .29. That biographical items have utility in predicting academic success for adult students in evening divisions, is clearly indicated.

2. Analysis of biographical items into factor groups.

In an effort to identify factors other than maturity related to the academic success of adult students, 35 items were distributed into five groupings as follows:

a. Family Factors

1. Number of high school graduates in the family.
2. Number of college graduates in the family.
3. Number of brothers and sisters.
4. Father's occupation.
5. Father's education.
6. Mother's education.

b. Economic Index

1. Home-ownership.
2. Number of cars in family.
3. Model of older car (if more than one).
4. Model of newer car or only car.
5. Annual income.
6. Amount of life insurance.

c. Social Participation

1. Number of memberships in fraternal organizations.
2. Number of memberships in community activities.
3. Number of memberships in career organizations.
4. Number of memberships in political organizations.
5. Number of memberships in all organizations.
6. Extent of church attendance.

d. Reading Interests

1. Popular magazines read.
2. Intellectual magazines read.
3. Self-rating of reading speed and comprehension.
4. Possession of public library card.
5. Number of fiction books read.
6. Number of non-fiction books read.
7. Number of books personally owned.
8. Average number of hours studied.

e. Leisure Activities

1. Attendance at art exhibits.
2. Attendance at athletic events.
3. Attendance at classical concerts.
4. Attendance at popular concerts.
5. Attendance at lectures.
6. Participation in active recreation.
7. Participation in passive recreation.
8. Amount of T.V. watching.
9. Working crossword puzzles.

Correlation coefficients for all combinations of the five groupings follow in Table 2.

Table 2

Intercorrelations of Item Groupings

(Original Sample above Diagonal, Replication below Diagonal)

	Family Factors	Economic Index	Social Participation	Reading Index	Leisure Activity
Family Factors		.10	.08	.21	.24
Economic Index	.11		.22	.03	-.01
Social Participation	.09	.28		.19	.14
Reading Index	.25	.05	.20		.43
Leisure Activity	.22	.00	.13	.45	

As shown in Table 3 these tentative scales have reasonable internal consistency as measured by Kuder-Richardson Formula 20. While Leisure Activities and Family Factors seem to have no relation with academic success, measures within the Economic Index, such as home ownership, annual income and amount of insurance, and items indicating Social Participation in community, career and public activities have by conventional statistical standards low but highly reliable correlations with the criterion.

The relation of the item group pertaining to Reading Interests to academic success is lower, but still statistically greater than zero.

Table 3

Internal Consistencies and Validities of Item Groups

	Number of Items	Internal Consistency (Kuder-Richardson 20)		Correlation with Mean Course Grade	
		Original	Replication	Original	Replication
Family Factors	6	.92	.91	.01	.01
Economic Index	6	.72	.68	.08	.07
Social Participation	6	.73	.77	.09	.10
Reading Index	8	.80	.82	.05	.04
Leisure Activities	9	.76	.75	-.01	.01

Leisure activities, such as playing cards and chess, watching TV, working crossword puzzles, or attending artistic or athletic events, seem to have no relation with academic success. Family Factors likewise contribute very little.

The coefficient of multiple correlation computed on the original data for Family Factors, Economic Index, Social Participation and Reading Index with the criterion of mean course grade is .12. The factor of Leisure Activities was omitted from the computation due to its low correlation with the criterion variable. Multiple R computed independently for the data of the 3769 subjects on the replication sample is .11.

In cross-validation, the correlation is .11, as might be expected since the validities of the four predictors from sample to sample are fairly stable.

In summary, item groups related to the areas of Economic Indices, Social Participation and Reading Interest have low but positive relationships with the criterion of mean grade. Leisure Activities and Family Factors seem to be uncorrelated with success in evening school credit classes.

3. Analysis of Biographical Items Related to "Maturity."

Fifteen items had correlations of .20 or more with age and to a considerable extent reflect a variable which might be called "maturity." These items and their correlations with age are shown in Table 4.

Table 4

Correlations of BIB Items with Age

Item Number		Spring Semester N ≐ 5009	Fall Semester N ≐ 3769
2	Marital Status	.50	.57
4	Number of Dependents	.43	.51
9	Number of College Credit Hours	.31	.34
11	Occupational Level	.32	.40
12	Degree to which Occupation is Intellectual	.23	.27
13	Supervision of Others at Work	.29	.34
17	Participation in Community Affairs	.37	.40
18	Membership in Organizations Related to Career	.25	.25
20	Number of Outside Group Memberships	.33	.36
23	Home Ownership	.56	.62
35	Number of Books Owned	.26	.27
42	Prior Education	.23	.29
45	Opinion as to Whether Grades Reflect Ability Fairly Accurately	.21	.18
54	Estimated Annual Income	.57	.64
55	Amount of Life Insurance	.38	.40

In Table 5 are reported the intercorrelations of these variables. Data from the original sample are above the diagonal, data from the replication sample below the diagonal. It will be noted that correlations are, with negligible exceptions, statistically significant and that many are substantial.

Table 5

Intercorrelations of Age-Related Variables

Original Sample (N ≐ 5009) above the Diagonal,
Replication Sample (N ≐ 3769) below the Diagonal.

Item No.	2	4	9	11	12	13	17	18	20	23	35	42	45	54	55
2		.64	.11	.15	.16	.14	.26	.11	.14	.57	.09	.07	.12	.50	.42
4	.66		.05	.09	.18	.15	.28	.13	.17	.52	.02	.00	.07	.45	.46
9	.14	.08		.44	.23	.26	.15	.18	.26	.11	.35	.82	.07	.19	.10
11	.23	.20	.50		.43	.34	.19	.16	.25	.16	.22	.45	.09	.25	.13
12	.18	.20	.24	.47		.19	.14	.01	.12	.17	.12	.22	.08	.26	.19
13	.22	.22	.27	.34	.22		.26	.19	.28	.19	.18	.24	.05	.25	.13
17	.31	.31	.21	.26	.16	.29		.19	.56	.35	.18	.14	.11	.27	.15
18	.16	.16	.24	.21	.03	.20	.22		.59	.15	.13	.17	.05	.21	.12
20	.20	.20	.33	.31	.15	.30	.59	.60		.24	.23	.25	.09	.29	.15
23	.62	.56	.09	.20	.16	.24	.40	.16	.27		.13	.05	.14	.49	.36
35	.13	.05	.39	.28	.13	.17	.21	.15	.26	.15		.35	.05	.17	.07
42	.10	.05	.86	.47	.24	.25	.19	.23	.33	.06	.39		.07	.16	.08
45	.13	.09	.10	.16	.09	.08	.11	.09	.08	.13	.03	.08		.13	.03
54	.56	.52	.29	.39	.28	.36	.32	.27	.34	.52	.22	.27	.17		.55
55	.44	.50	.12	.24	.23	.19	.20	.16	.21	.40	.08	.11	.05	.56	

The sum variable obtained by adding these 15 item variables with unit variances has appreciable homogeneity, as evidenced by Kuder-Richardson Formula 20 values of .80 in the original sample and .83 in the replication.

Correlation of the 15 items and of their sum (again with unit variances) with average grade are shown in Table 6. Again results for the two samples are reported separately. It will be noted that all these correlations are positive and statistically significant, ranging from .05 to .21, and that they are fairly stable from sample to sample.

Table 6

Correlations of Items and 15-Item Composite with Average Grade
(Zero Order r's and First Order Partials with Age Out)

Item No.		Original Sample		Replication Sample	
		Correlation with grade	Partial r (age out)	Correlation with grade	Partial r (age out)
2	Marital Status	.13	.04	.15	.04
4	Number of Dependents	.10	.01	.08	-.02
9	Number College Hours	.14	.08	.21	.16
11	Occupational Level	.14	.08	.19	.12
12	Degree Occupation is Intellectual	.10	.05	.10	.05
13	Supervision of Others at Work	.06	.00	.11	.04
17	Participation in Community Affairs	.08	.00	.12	.04
18	Membership in Career Organizations	.07	.02	.07	.02
20	Total Group Membership	.09	.03	.08	.01
23	Home Ownership	.14	.03	.11	-.01
35	Number of Books Owned	.12	.07	.14	.09
42	Prior Education	.12	.07	.19	.14
45	Opinion Grades Reflect Ability	.21	.17	.17	.14
54	Annual Income	.16	.05	.16	.05
55	Amount Life Insurance	.07	.00	.05	-.03

In the first sample, age correlates .21 with grade average, whereas in the second sample the correlation is .20. These correlations are quite close to the validities of the 15-variable composite with the same criterion, which are .22 and .23 respectively. Also, as would naturally be the case because of the way the 15 items comprising the composite were selected, the correlations of the 15-variable composite with age are high, .67 and .71 in the two samples. However, as also shown in Table 6, when partial correlations are obtained between grade on the one hand and age related variables on the other (with age partialed out) some but not all of the r's are reduced to zero. In the two samples, the validities of the composite with variance associated with age removed by partial correlation are .12 and .13. Certain of the specific items, marital status, college hours completed, occupation, occupational demands, number of books owned, education completed, estimated annual income and whether the student feels that grades reflect his ability, still predict the grade criterion to some degree even after age has been partialed out.

Apparently age-related variables reflect more than the passage of time. When interests, abilities and opportunities are appropriate, time is a dimension in college credits earned, number of books accumulated, occupational level and the like. Even though the correlations of these variables with academic achievement are lowered when age is partialed out, it seems likely that the basic variable which is related to academic grades of adult students is something which might be described as maturity, and which is exhibited in having children, supervising others, belonging to organizations related to occupation, owning a home and achieving a good income. The student who is successful in these aspects of becoming a mature citizen also tends to be successful as a part-time scholar. In the context of this project, at least, age, social maturity and scholarship co-vary.

B. Vocational-Educational Appraisal and Class Grade.

1. An Analysis of subjects by age and sex.

The number of subjects included in the Spring and Fall Samples distributed by age group and sex are given in Table 7.

Table 7

Number of Subjects by Age and Sex

Sample 3 Spring 1962	Under 20	21-22	23-24	25-29	30-39	40-49	50-59	TOTALS
Male	19	16	15	36	31	8	1	126
Female	8	2	5	8	16	12	2	53
TOTALS	27	18	20	44	47	20	3	179
Sample 4 Fall 1962-63								
Male	23	17	25	23	35	10	2	135
Female	20	16	4	10	17	3	2	72
TOTALS	43	33	29	33	52	13	4	207

2. Motivational characteristics and class grade.

During individual test interpretation interviews designed to approximate a counselor-student one hour interview, the results of the test program and general educational plans were discussed with each subject. The counselor arrived at judgments of the strength of motivation of each student interviewed along five dimensions. Correlations are presented in Table 8.

Table 8

Correlations of Final Grade with Counselor Ratings of Student Motivation

		Sample 1	Sample 2
1.	Principal Reason for Continuing Education	.03	.20
2.	Educational Goal	.02	*
3.	Student Appraisal of Instructor	**	.04
4.	Level of Motivation	.19	.12
5.	Student's Self-Perception of Abilities	.14	.19
6.	Attitudes Toward Evening Scholastic Program	.14	.10

3. Rater Reliabilities.

Reliabilities of motivation assessments obtained by different counselors rating independently in consecutive interpretive sessions were low as shown in Table 9.

Table 9

Interrater Reliabilities

Item	Sample 3 Spring (N = 63)	Sample 4 Fall (N = 60)
1	.48	.15
2	.45	*
3	**	.32
4	.29	.37
5	.27	.19
6	.27	.32
Composite	.37	.49

4. Interest Measures and Academic Success.

Interest scales on the Strong VIB which are common to both the men's and women's forms were correlated with final class grade for each sample. None of the variables adds to the multiple R, as indicated by correlations found in Table 10.

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*Not rated in Sample 1.
**Not rated in Sample 2.

Table 10

Correlations of Interest Scales and Final Class Grade

SVIB Interest Scale	Spring Sample 3 N = 179	Fall Sample 4 N = 207
Artist	-.05	.12
Psychologist	.17	.20
Physician	.11	.14
Math. Sci. Teacher	.08	.08
"Y" Secretary	.06	-.09
Soc. Sci. H.S. Teacher	.10	-.05
Social Worker	.06	.07
Music Performer	-.09	-.03
Life Insurance Salesman	-.08	-.09
Lawyer	.03	.07
Author-Journalist	-.01	.06

5. Ability Measures and Academic Success.

The best predictors of final grade for the population of 179 Ss in the original sample were the conventional measures of mathematics ability, vocabulary, and level of reading comprehension. A multiple correlation of .49 was obtained. Cross-validated against the 207 Ss in the population of the replication study the R showed shrinkage to .41, as indicated in Table 11.

Table 11

Correlations Between Ability Measures and Final Grade

	Sample 3 N = 179	Sample 4 N = 207
Wesman Personnel Classification:		
Vocabulary Test	.39	.29
Numbers Test	.35	.29
Coop. English Reading Comprehension:		
Vocabulary Test	.37	.35
Level of Comp.	.39	.33
Speed of Comp.	.37	.32
	R = .49	R = .41

This drop is primarily attributable to an unexplained drop in the zero order r's obtained for the Fall Semester.

6. "Residual gain" and academic success.

The "residual gain" score used as a criterion showed little advantage in this study over the traditional final grade. In general, prediction of academic success was not markedly affected by the utilization of "residual gain" as compared with final grade as a criterion.

The correlations obtained with "residual gain" scores tend to run slightly lower than correlations obtained with the more conventional measure of final grade.

It is difficult to assess this result since the achievement tests used were in the main standardized tests with equivalent forms. There is no guarantee that the material taught in the course is adequately covered by the published test. Final decision on the wisdom of using the "residual gain" score must wait the careful development of pre-instruction and post-instruction measures which accurately and validly measure the content of the course as it is taught by the individual instructor.

IV. REPORTS AND PAPERS

The reports and papers prepared and disseminated which stem directly from or are significantly related to Project 1338 follow:

1. "Objectives and Methods of Research in Adult Education," a report of a conference held at Bromwoods Residential Center. Issued 1 May 1962. More than 500 copies of this publication have been distributed to libraries, adult educators and individuals interested in adult education research. Edited by Philip H. DuBois and King M. Wientge.

2. "Educational Research in Ongoing Situations," by Philip H. DuBois, Adult Education, Summer, 1962.

3. "Project 1338 - Initial Report to Students and Faculty," by King M. Wientge, Adult Education Bulletin, March, 1963. The Adult Education Bulletin is the quarterly publication of University College of Washington University. Seventeen thousand copies are distributed to adult students, business, industrial, government and labor organizations and interested citizens in the St. Louis Metropolitan area.

4. "Counseling Adults - A New Horizon or an Old Vista," by William D. Dannenmaier. A paper presented at the American Personnel and Guidance Association annual convention, April 8, 1963.

5. "Factors Associated with Academic Achievement of Adult Students: Current Research at Washington University," by Myron A. Spohrer. A paper presented at the annual convention of the American Personnel and Guidance Association, April 9, 1963.

6. "Prediction of Classroom Achievement of Evening Division Adult Students," by Philip H. DuBois and King M. Wientge. A paper presented at the annual meeting of the Midwest Psychological Association, May 3, 1963.

7. "Some Biographical Correlates of Adult Student Success," by King M. Wientge and Philip H. DuBois. A paper presented at the annual meeting of the American Psychological Association, August 29, 1963.

8. "Age-Related Variables in the Prediction of the Academic Success of Adult Students," by Philip H. DuBois and King M. Wientge. A paper presented at the annual meeting of the American Psychological Association, August 29, 1963.

9. "Strategies of Research on Learning in Educational Settings," a report of a conference held at the Bromwoods Residential Center. In excess of 600 copies of this publication have been distributed to libraries, adult educators, researchers and others interested in adult education research. Edited by Philip H. DuBois and King M. Wientge.

10. A thesis in partial fulfillment of the requirements for the Master of Arts degree in psychology was completed by Thomas Laska. The study was based on the reliability check ratings of the counselors' appraisal of motivation carried out as part of the Project 1338 research. This thesis is entitled, "Rater Reliability in Counseling Interviews."

11. The unpublished doctoral dissertation of William D. Dannenmaier utilizing data of Project 1338 is entitled "Residual Gain in Learning as a Correlate of Degree and Direction of Effort in Formal Educational Programs." Dannenmaier in studying the relationship between pattern of study and gain in learning, found significant, positive relationships between various patterns of study and various kinds of learning. The study activity inventory was developed through internal consistency analysis. Two scales were involved. The first, Study Behavior I, reflects the tendency to follow the teacher's instructions and to channel study efforts in the directions suggested by the class text. The second, Study Behavior II, indicates an interest in those aspects of the courses or text which are idiosyncratic. The sample on which the analysis was based consisted of 280 students in 10 adult evening classes, all of which involved college credit. These classes were all in the general area of Social Studies, including Psychology, Sociology, Anthropology, Geography, Economics and History. The Kuder-Richardson Formula 20 reliability for Study Behavior I is .85, for Study Behavior II, it is .76. The inter-correlation between the scales is .21. A second administration of the study inventory to 70 students in an adult evening course in psychology indicated that the two scales are independent, though positively correlated with various aspects of learning, as measured by residual gain.

12. On May 8, 1963, before the St. Louis Branch of the American Personnel and Guidance Association, Philip H. DuBois and King M. Wientge presented a program on the topic "Project 1338," a study of the characteristics and motivation of adult part-time college students. This was well received and stimulated much discussion from a group of individuals engaged in counseling and counseling administration activities in the St. Louis Metropolitan area.

13. On Tuesday, March 5, 1963, K. M. Wientge presented a one hour paper on "Educational Research in Ongoing Classes,"

which consisted of an analysis of the procedures and findings to that date of Project 1338. This was presented before the National Seminar on Adult Education Research meeting in Chicago.

14. At the American Education Research Association annual conference on February 20, 1964, King M. Wientge presented relevant aspects of Project 1338, as a participant in "A Symposium on Adult Education Research."

V. CONCLUSIONS AND IMPLICATIONS

The time arrives in a research project when researchers must evaluate their data in relation to the original hypotheses. The next few paragraphs will be concerned with this matter.

Our first hypothesis suggested that biographical data are related to the academic success of adult students and that the measures of biographical data may be used to predict academic success. An examination of our results in the light of this hypothesis indicates that the answer has been affirmative. We have, using the 21 items correlating with the grade criterion of .05 or better, obtained a composite validity close to .30. It should also be re-emphasized that the biographical information was collected in a public situation and not in a clinical interview as is often the case when questions of a more searching nature can be used. It has been found in the past that biographical information is correlated to success on the job, as in predicting success as a life insurance salesman.

This suggested to the researchers in the Adult Education Research Office of Washington University the possibility of developing a brief screening test which would provide more adequate information to assist adults who are interested in enrolling in credit classes in evening divisions in urban institutions. The current instruments for evaluation that have the most predictive ability are the traditional intelligence, reading comprehension and vocabulary tests. However, it should be noted that the validities are consistently lower than are the same scores for predicting success in the day school population. The Adult Education Research Office of University College of Washington University is therefore currently engaged in developing a screening device which has been tentatively designated as the "Test of Adult College Ability." This is currently an unpublished, research instrument. The opening section of the test utilizes the information developed in Project 1338.

One of the interesting analyses which has not been attempted by this project, but which will be conducted under the Adult Education Research Office is that of analyzing the frequency distributions of various biographical data items in the University College population. There is a shifting urban population, and there are many questions which will need to be answered now in order to predict trends of the adult population in urban university evening colleges in the next ten, twenty or thirty years. The location of the campus in relation to the student population, the age and sex distribution as compared with data of other years, the kinds of courses in which the students enroll, the question of the interest in and enrollment in non-vocational courses, the matter of individuals with degrees returning to campus for "re-tooling" programs, the number of students who are fairly recently out of high school who enroll in evening division programs for degree credit work, the socioeconomic background of the individuals and their attitudes and motivational characteristics toward an evening program are illustrative of the many facets to which the descriptive data of a population distribution can be applied.

A dimension of maturity was isolated in analyzing the biographical information data. This dimension is characterized by the mature person who seems to be able to carry on in a businesslike efficient way, and this trait is expressed not only in higher grades but also in the maturity of being a home owner, seeking marriage, having a family, and otherwise having the role of a productive mature citizen. The concept of maturity and the investigation of individuals with maturity as to their significant characteristics was identified as another area of investigation that beckons.

In summary then it can be said that our findings in relation to the biographical information hypothesis have been positive and have stimulated a number of research hypotheses in related directions.

In examining the hypothesis pertaining to the second large phase of the project, one notes that it was predicted that measures of attitudes, abilities, interests and motivational characteristics are positively related to the academic success of adult students and are useful as predictors of academic success of adult students. The data here clearly demonstrate the superiority of the traditional tests of intelligence, reading speed and comprehension, and vocabulary in their correlations with academic success. It was a disappointment to the research staff that the staff of carefully selected counselors was unable to predict student success. Correlations were very low and not significant. In addition, the capacity of the counselors to appraise motivation, interests, and similar characteristics of the students to whom they gave the test feed-back was again a disappointment. As previously pointed out, the attempt was to create a situation simulating a counselor in the evening division of an urban institution having a 45 minute interpretive interview with a prospective student who had applied for admission. Our results would indicate that the utilization of biographical information plus the standard battery of tests would be by far the best basis for prediction, with judgment of the counselor having doubtful validity. However, there are some implications in the data of Samples 1 and 2 which the Adult Education Research Office hopes to explore further. The common scales of the Strong Vocational Interest Blank, eleven in number, were the only interest measures analyzed for this report. We have, of course, the complete Strong profiles, and it is quite in order that the data be examined to determine if adult interests, as reported on the SVIB, are in some way correlated with the course taken and the grade that is made. For example, it is possible to denote the kind of course the adult enrolls in, that is, mathematics and science, as opposed to social science, and correlate this with grade point average to see if the impact of interest, when it is positive, is more significant than when it is negative. These are chores which remain to be done and the hope is that in the not too far distant future the data can be analyzed further.

It is significant to mention that the impact of Project 1338 on a Washington University campus has been quite important. Washington University for many years has been a center of research and development in the many disciplines, but nothing of a purely adult research program had been conducted in relation to the evening division, University College. Some of the collateral effects of the project follow:

1. The staff of University College has met weekly on one afternoon a week to discuss the problems connected with specific research areas and to discuss problems of a general nature in the area of adult education. This has led to the upgrading of the interest of the staff of University College in adult education research.

2. Members of the staff are currently engaged in developing studies using project data. These studies will be published in the not too far distant future.

One study is the study of the characteristics of evening school graduates in the current year as they compare with the two previous periods within the last decade. These data, it is believed, will give an interesting analysis of the changing characteristics of the adult population. For example, it appears that more students are enrolling in University College with more college hours credit at the time of enrollment than was true several years ago. Other findings are being explored and carried forward under the direction of Myron A. Spohrer, Registrar-Counselor of University College.

Another study of interest to the adult education researcher and the worker in adult education is one being conducted under the leadership of Mr. James K. Lahr in connection with a residential program offered at the Bromwoods Residential Center of Washington University. Two sections in the General Psychology course are being taught by the same instructors, that is, each instructor presents the same material to each of the sections. The section which meets on Friday night has fewer on-campus sessions and these are compensated for by two week-end residential experiences at the Bromwoods Residential Center. Here the impact of the socialization and the intimate relationship with the instructor will be evaluated to determine if there are significant improvements not only in grade but in attitude toward the institution. This project will be reported on after the end of this semester.

One final development on the campus at Washington University is the establishment of an Office of Adult Education Research and Development. It is anticipated that continued effort by those on the campus interested in adult education will lead to further significant and much needed research in the area.

Intercorrelations of Biographical Da

Sample 1 - Spring, 1962

VARIABLE		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Sex	1		.64	.61	-.02	.22	.10	.39	.03	-.17	.06	-.02	-.10	.19	-.11
2 Height	2	.64		.68	-.07	.14	.06	.25	.03	-.14	.06	.03	-.06	.13	-.08
3 Weight	3	.61	.68		.12	.23	.05	.34	.02	-.10	.06	.03	.01	.14	-.06
4 Age	4	-.02	-.07	.12		.50	-.04	.43	-.14	.01	-.12	-.03	.31	.03	.15
5 Marital Status	5	.22	.14	.23	.50		.07	.64	-.01	-.13	-.03	-.01	.10	.12	.02
6 No. in Household	6	.10	.06	.05	-.04	.07		.41	-.10	-.09	-.03	.01	-.08	.00	-.05
7 No. of Dependents	7	.39	.25	.34	.43	.64	.41		-.09	-.21	-.06	-.01	.04	.15	.02
8 Spouse Attitd. to UC Attndnce.	8	.03	.03	.02	-.14	-.01	-.10	-.09		.03	.21	.15	.01	.02	-.06
9 How Tuition is Paid	9	-.17	-.14	-.10	.01	-.13	-.09	-.21	.03		.03	.01	.10	-.11	.03
10 Gen'l. Health Last 3 Yrs.	10	.06	.06	.06	-.12	-.03	-.03	-.06	.21	.03		.41	.04	-.02	-.02
11 How do you Sleep	11	-.02	.03	.03	-.03	-.01	.01	-.01	.15	.01	.41		.06	-.03	.00
12 No. College Hrs. Compltd.	12	-.10	-.06	.01	.31	.10	-.08	.04	.01	.10	.04	.06		-.18	.07
13 UC Courses-Better Job	13	.19	.13	.14	.03	.12	.00	.15	.02	-.11	-.02	-.03	-.18		.10
14 UC Courses-Persnl. Satisfctn.	14	-.11	-.08	-.06	.15	.02	-.05	.02	-.06	.03	-.02	.00	.07	.10	
15 UC Courses-Employer Request	15	.05	.04	.07	.08	.05	.03	.08	-.04	-.13	-.04	-.01	-.01	.04	.01
16 UC Courses-Develop Hobby	16	.06	-.08	-.07	.06	-.02	-.03	-.02	-.01	.06	.00	-.02	.08	-.03	.10
17 UC Courses-Complt. Deg., Cert.	17	.04	.04	.02	-.06	.02	.04	.00	.00	-.07	-.02	-.04	.05	-.23	-.26
18 Occupation of Respondent	18	-.14	-.08	.01	.32	.15	-.06	.09	.01	.00	.02	.04	.44	-.12	.09
19 Current Occupation Demands	19	.08	.04	.09	.23	.15	-.01	.18	-.01	-.10	.03	.01	.23	-.03	.04
20 Supervsn. of Others-How Many	20	-.05	-.03	.07	.29	.14	.03	.15	.01	.04	.01	.03	.26	-.04	.05
21 More than One Paid Job-How Many	21	.04	.03	.03	.01	.01	.00	.04	-.04	.04	.00	.01	.04	.01	.00
22 Progress on Job	22	-.09	-.06	-.04	-.04	.02	-.03	-.04	.16	.00	.17	.14	.04	-.08	.03
23 Membrshp. Frat. Organizations	23	.07	.04	.09	.10	.06	.00	.06	.02	-.01	.00	.04	.08	.00	.01
24 Membrshp. Community Activities	24	-.10	-.09	.00	.37	.26	.21	.28	-.05	.03	-.03	.02	.15	-.05	.04
25 Membrshp. Career Organizations	25	.03	.02	.10	.25	.11	-.02	.13	-.01	.04	.01	.02	.19	.00	.07
26 Membrshp. Political Groups	26	-.07	-.04	.00	.05	-.04	-.02	-.03	.00	.03	-.01	.01	.06	-.05	.03
27 Total Membrshps. Groups Listed	27	-.05	-.05	.07	.33	.14	.05	.17	-.03	.06	.00	.04	.26	-.05	.08
28 Attndnce. Church or Synagogue	28	-.01	-.02	-.02	-.03	-.03	-.10	-.07	-.04	.01	.00	-.05	.05	-.04	.04
29 Type of Community Resided in	29	-.11	-.06	-.07	.05	.05	-.05	-.01	-.01	.04	-.02	-.02	.08	.00	-.03
30 Home Owner	30	.10	.04	.15	.56	.57	.16	.52	-.11	-.08	-.07	-.01	.10	.05	.05
31 Attndnce. Past Yr.-Art Exhbts.	31	-.26	-.19	-.19	-.01	-.16	-.08	-.20	.03	.14	.01	.05	.17	-.15	.09
32 Attndnce. Past Yr.-Athltc. Evts.	32	.10	.10	.08	-.24	-.16	.04	-.11	.09	-.04	.14	.08	-.06	-.02	-.05
33 Attndnce. Past Yr.-Class. Cncrts.	33	-.24	-.16	-.16	-.02	-.19	-.09	-.22	.05	.08	.03	.06	.19	-.15	.09
34 Attndnce. Past Yr.-Poplr. Cncrts.	34	-.09	-.02	-.07	-.16	-.23	-.04	-.19	.06	.04	.04	.04	.01	-.07	.00
35 Attndnce. Past Yr.-Lectures	35	-.11	-.07	-.05	.01	-.11	-.04	-.10	.04	.07	.03	.05	.16	-.11	.03
36 Hrs. per Week-Active Recreation	36	.07	.07	.04	-.21	-.19	.02	-.13	.07	.02	.12	.07	-.06	-.02	-.05
37 Hrs. per Week-Passive Recreation	37	-.06	-.01	-.03	-.20	-.10	.00	-.11	.09	.01	.05	.06	.01	-.05	.01
38 Hrs. per Week watching TV	38	-.10	-.06	-.11	.01	-.11	-.05	-.11	.00	.07	.02	.01	.06	-.07	.03
39 Likes Crosswrd. Puzzl., Quizzes	39	-.13	-.11	-.08	.08	.04	.00	.02	.03	.01	-.03	.02	-.03	.00	.02
40 Mags. Regly. Read-Cultural	40	-.05	-.03	-.02	-.07	-.09	.00	-.09	.10	.03	.02	.04	-.08	-.04	-.06
41 Mags. Regly. Read-Popular	41	-.11	-.06	-.07	-.02	-.13	-.06	-.16	.07	.06	.04	.04	.13	-.12	.03
42 Self Ratg. Rdg. Speed & Comp.	42	-.13	-.08	-.08	.01	.00	-.04	-.06	.05	.03	.07	.09	.12	-.06	.03
43 Has Use Public Library Card	43	-.10	-.07	-.08	-.01	-.04	.03	-.06	-.02	.03	.00	.00	.06	-.05	.04
44 No. Fiction Bks. Read Past 12 Mos.	44	-.21	-.14	-.11	-.05	-.09	-.04	-.14	.03	.06	-.01	.01	.08	-.08	.05
45 No. Non-Fict. Bks. Read Past 12 Mos.	45	-.13	-.09	-.06	.05	-.06	-.03	-.08	.03	.08	.00	.02	.16	-.10	.08
46 Est. No. Bks. Persnly. Owned	46	-.15	-.12	-.04	.26	.09	-.06	.02	.01	.09	-.02	.01	.35	-.13	.10
47 No. Family High Sch. Graduates	47	-.07	-.03	-.04	.04	.00	.02	-.02	.01	.03	.04	.05	.15	-.07	.00
48 No. Family College Graduates	48	-.13	-.07	-.08	.08	-.04	-.04	-.07	.05	.04	.04	.06	.27	-.12	.02
49 No. Brothers & Sisters	49	.00	-.03	-.03	.09	.03	.14	.06	-.02	.02	-.05	-.04	-.03	.01	-.03
50 Father's Occupation	50	-.12	-.05	-.07	-.08	-.11	-.02	-.13	.05	.02	.06	.07	.20	-.13	.04
51 Father's Education	51	-.11	-.04	-.10	-.17	-.16	-.02	-.19	.06	.01	.08	.05	.16	-.12	.01
52 Mother's Education	52	-.10	-.01	-.08	-.18	-.14	-.04	-.18	.03	.00	.07	.04	.16	-.13	.01
53 Education of Respondent	53	-.09	-.05	.00	.23	.07	-.09	.00	.04	.08	.06	.06	.82	-.19	.04
54 Last School Attndnce.	54	00	.03	.00	-.14	-.08	.00	-.06	-.05	-.08	-.02	-.03	.04	.00	-.03
55 Rank in High Sch. Class	55	-.22	-.16	-.12	.11	.04	-.04	-.04	-.06	.02	.00	.03	.19	-.08	.06
56 Grades Reflect Ability	56	-.14	-.13	-.10	.21	.12	.01	.07	-.03	.02	.00	.05	.07	.02	.08
57 Aver. Hrs. Study per Week	57	-.03	.02	.00	-.11	-.09	.01	-.06	.01	-.03	.01	-.02	.05	-.09	-.08
58 Subject Matter you like Most	58	-.28	-.19	-.19	-.01	-.12	-.04	-.19	.02	.10	-.01	.00	.06	-.08	.06
59 Subject Matter you like Least	59	-.32	-.23	-.24	.02	-.11	-.05	-.19	.01	.11	-.02	.01	.04	-.09	.05
60 Speaks Foreign Language	60	-.20	-.14	-.15	-.06	-.14	-.06	-.16	.04	.06	.01	.01	.16	-.13	.03
61 Reads Foreign Language	61	-.27	-.17	-.18	-.08	-.16	-.04	-.20	.03	.08	-.02	.00	.18	-.16	.03
62 In 5 Yrs. Would Like Present Job	62	-.18	-.13	-.09	.16	.04	-.02	-.03	.00	.14	-.02	.01	.18	-.17	.07
63 In 5 Yrs. Would Like Supervsry. Job	63	-.06	.06	.06	-.02	.02	.00	.04	.05	-.08	.00	.00	-.02	.09	.04
64 In 5 Yrs. Would Like Job Working Alone	64	.00	-.02	-.04	-.06	-.06	-.02	-.07	-.06	.03	-.03	-.04	-.02	-.03	.04
65 In 5 Yrs. Job More Money and Respnblty.	65	.14	.10	.09	-.06	.02	.03	.08	.01	-.10	.02	-.01	-.08	.17	-.01
66 No. Cars in Family	66	-.05	-.01	-.08	-.25	-.35	.19	-.30	-.02	.05	.04	.04	-.02	-.10	-.04
67 Model Yr. Older Car (If 2 Owned)	67	-.07	-.05	-.05	-.11	-.19	-.04	-.16	.03	-.02	.01	.03	.03	-.10	.04
68 Model Yr. Only (or Newer) Car Owned	68	-.06	-.01	-.01	-.02	-.06	-.03	-.11	.03	.01	.04	.04	.04	-.06	.01
69 Est. Annual Income All Sources	69	.20	.12	.22	.57	.50	.04	.45	-.06	-.08	-.01	.03	.19	.04	.13
70 Amount of Life Insurance	70	.40	.29	.32	.34	.42	.09	.46	-.02	-.20	.02	.01	.10	.11	.05
71 Grades: A=80, B=60, C=40, D=20, F=01	71	-.07	-.06	-.02	.21	.13	.00	.10	-.05	.02	.01	.03	.14	.04	.10
72 Semester Units (Units Earned x 2)	72	-.08	.05	.04	-.17	-.09	.01	-.08	.02	-.09	.03	-.02	.03	-.09	-.10
73 Administrative Category	73	-.22	-.13	-.11	-.02	-.07	-.04	-.12	.10	-.11	-.02	.00	-.09	-.06	-.06
74 Aver. Hrs. Study per Wk. ÷ Semstr. Units	74	.02	.01	.00	-.10	-.13	-.01	-.06	-.02	.06	.02	.01	-.02	-.03	.01

graphical Data Items and Class Grades

pring, 1962 N = 5009

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
-.02	-.10	-.19	-.11	.05	-.06	.04	-.14	.08	-.05	.04	-.09	.07	-.10	.03	-.07	-.05	-.01	-.11	.10	-.26	.10	-.24	-.09
.03	-.06	.13	-.08	.04	-.08	.04	-.08	.04	-.03	.03	-.06	.04	-.09	.02	-.04	-.05	-.02	-.06	.04	-.19	.10	-.16	-.02
.03	.01	.14	-.06	.07	-.07	.02	.01	.09	.07	.03	-.04	.09	.00	.10	.00	.07	-.02	-.07	.15	-.19	.08	-.16	-.07
-.03	.31	.03	.15	.08	.06	-.06	.32	.23	.29	.01	-.04	.10	.37	.25	.05	.33	-.03	.05	.56	-.01	-.24	-.02	-.16
-.01	.10	.12	.02	.05	-.02	.02	.15	.15	.14	.01	.02	.06	.26	.11	-.04	.14	-.03	.05	.57	-.16	-.16	-.19	-.23
.01	-.08	.00	-.05	.03	-.03	.04	-.06	-.01	.03	.00	-.03	.00	.21	-.02	-.02	.05	-.10	-.05	.16	-.08	.04	-.09	-.04
-.01	.04	.15	.02	.08	-.02	.00	.09	.18	.15	.04	-.04	.06	.28	.13	-.03	.17	-.07	-.01	.52	-.20	-.11	-.22	-.19
.15	.01	.02	-.06	-.04	-.01	.00	.01	-.01	.01	-.04	.16	.02	-.05	-.01	.00	-.03	-.04	-.01	-.11	.03	.09	.05	.06
.01	.10	-.11	.03	-.13	.06	-.07	.00	-.10	.04	.04	.00	-.01	.03	.04	.03	.06	.01	.04	-.08	.14	-.04	.08	.04
.41	.04	-.02	-.02	-.04	.00	-.02	.02	.03	.01	.00	.17	.00	-.03	.01	-.01	.00	.00	-.02	-.07	.01	.14	.03	.04
	.06	-.03	.00	-.01	-.02	-.04	.04	.01	.03	.01	.14	.04	.02	.02	.01	.04	-.05	-.02	-.01	.05	.08	.06	.04
.06		-.18	.07	-.01	.08	.05	.44	.23	.26	.04	.04	.08	.15	.18	.06	.26	.05	.08	.10	.17	-.06	.19	.01
-.03	-.18		.10	.04	-.03	-.23	-.12	-.03	-.04	.01	-.08	.00	-.05	.00	-.05	-.05	-.04	.00	.05	-.15	-.02	-.15	-.07
.00	.07	.10		.01	.10	-.26	.09	.04	.05	.00	.03	.01	.04	.07	.03	.08	.04	-.03	.05	.09	-.05	.09	.00
-.01	-.01	.04	.01		.01	-.11	.06	.08	.06	.00	.02	.01	.05	.02	.02	.04	-.01	.01	.07	-.06	.02	-.03	-.01
-.02	.08	-.03	.10	.01		-.09	.02	.00	.02	-.01	.01	-.01	.02	.01	.01	.03	.01	-.01	.00	.10	-.05	.05	.00
-.04	.05	-.23	-.26	-.11	-.09		.06	.02	-.01	.04	.05	.00	.00	-.04	-.01	-.02	-.02	.02	-.02	-.04	.00	-.02	.03
.04	.44	-.12	.09	.06	.02	.06		.43	.34	.05	.08	.07	.19	.16	.05	.25	.01	.06	.16	.10	-.04	.16	.03
.01	.23	-.03	.04	.08	.00	.02	.43		.19	.02	.14	.06	.14	.01	.01	.12	-.02	-.01	.17	-.01	.01	.04	.00
.03	.26	-.04	.05	.06	.02	-.01	.34	.19		.06	.15	.08	.26	.19	.07	.28	-.02	.06	.18	.05	.01	.07	.01
.01	.04	.01	.00	.00	-.01	.04	.05	.02	.06		.02	.06	.04	.08	.08	.10	.01	.01	.00	.04	.01	.02	.00
.14	.04	-.08	.03	.02	.01	.05	.08	.14	.15	.02		.03	.04	.00	.03	.06	.01	-.01	.01	.08	.07	.11	.08
.04	.08	.00	.01	.01	-.01	.00	.07	.06	.08	.06	.03		.12	.10	.09	.41	-.04	.00	.08	.01	.06	.01	.04
.02	.15	-.05	.04	.05	.02	.00	.19	.14	.26	.04	.04	.12		.19	.12	.56	-.10	.06	.35	.04	-.12	.03	-.04
.02	.18	.00	.07	.02	.01	-.04	.16	.01	.19	.08	.00	.10	.19		.07	.59	-.02	.03	.15	.01	.01	.04	.00
.01	.06	-.05	.03	.02	.01	-.01	.05	.01	.07	.08	.03	.09	.12	.07		.30	.00	.04	.00	.01	.05	.09	.07
.04	.26	-.05	.08	.04	.03	-.02	.25	.12	.28	.10	.06	.41	.56	.59	.30		-.05	.04	.24	.09	.06	.10	.04
-.05	.05	-.04	.04	-.01	.01	-.02	.01	-.02	-.02	.01	.01	-.04	-.10	-.02	.00	-.05		.00	-.08	.10	-.05	.03	.01
-.02	.08	.00	-.03	.01	-.01	.02	.06	-.01	.06	.01	-.01	.00	.06	.03	.04	.04	.00		.01	-.07	-.06	-.04	-.04
-.01	.10	.05	.05	.07	.00	-.02	.16	.17	.18	.00	.01	.08	.35	.15	.00	.24	-.08	.01		-.12	-.15	-.14	-.17
.05	.17	-.15	.09	-.06	.10	-.04	.10	-.01	.05	.04	.08	.01	.04	.01	.01	.09	.10	-.07	-.12		.05	.47	.23
.08	-.06	-.02	-.05	.02	-.05	.00	-.04	.01	.01	.01	.07	.06	-.12	.01	.05	.06	-.05	-.06	-.15	.05		.07	.26
.06	.19	-.15	.09	-.03	.05	-.02	.16	.04	.07	.02	.11	.01	.03	.04	.09	.10	.03	-.04	-.14	.47	.07		.35
.04	.01	-.07	.00	-.01	.00	.03	.03	.00	.01	.00	.08	.04	-.04	.00	.07	.04	.01	-.04	-.17	.23	.26	.35	
.05	.16	-.11	.03	-.03	.01	.02	.13	.03	.09	.06	.09	.07	.11	.07	.14	.20	.02	-.04	-.05	.35	.16	.32	.19
.07	-.06	-.02	-.05	-.01	-.02	.01	-.03	-.04	.01	.00	.06	.03	-.01	.01	.05	.04	.02	-.05	-.13	.08	.34	.08	.17
.06	.01	-.05	.01	-.02	.00	.01	-.02	-.04	-.03	-.03	.07	.01	-.04	-.03	.05	-.01	.04	-.05	-.12	.12	.17	.09	.14
.01	.06	-.07	.03	-.06	.01	.00	.05	.02	.01	.06	.03	.00	.01	.00	.04	.02	.00	.05	-.07	.15	-.04	.16	.07
.02	-.03	.00	.02	.00	.01	.05	-.01	.02	.04	-.01	.03	.02	.08	.02	.03	.06	-.04	.04	.03	.00	.04	-.01	.00
.04	-.08	-.04	-.06	.00	-.03	.01	-.03	-.04	.01	.00	.05	.04	.04	.02	.05	.05	-.02	.02	-.07	.00	.14	.02	.11
.04	.13	-.12	.03	-.02	.01	.01	.07	.03	.06	-.01	.11	.03	.03	.04	.13	.12	.07	-.03	-.08	.34	.08	.32	.19
.09	.12	-.06	.03	.00	.04	.04	.11	.07	.06	.01	.15	.03	.06	.07	.05	.09	.04	-.05	-.02	.14	.02	.16	.07
.00	.06	-.05	.04	.00	.03	.02	.05	.01	.02	.02	.01	.00	.10	.02	.05	.07	-.01	-.08	.01	.10	-.01	.08	.04
.01	.08	-.08	.05	-.02	.02	-.02	.03	-.02	.01	.01	.06	-.02	.02	.00	.05	.03	.10	-.02	-.07	.22	.03	.19	.12
.02	.16	-.10	.08	-.03	.03	.03	.10	.01	.06	.01	.07	.00	.07	.07	.09	.14	.09	-.04	-.01	.28	.00	.24	.12
.01	.35	-.13	.10	.01	.06	.07	.22	.12	.18	.04	.08	.07	.18	.13	.09	.23	.09	-.01	.13	.27	-.09	.24	.04
.05	.15	-.07	.00	-.01	.00	.00	.09	.04	.03	.01	.02	.02	.05	.03	.07	.08	-.02	.05	-.01	.10	.04	.14	.07
.06	.27	-.12	.02	-.03	.01	-.02	.14	.06	.08	.01	.06	.03	.09	.05	.09	.13	.02	.00	-.02	.19	.02	.23	.08
-.04	-.03	.01	-.03	.00	.01	.00	-.03	.00	.03	.00	-.01	-.03	.04	.03	.00	.02	-.10	.11	.05	-.03	.00	-.03	-.03
.07	.20	-.13	.04	-.04	.03	.02	.18	.04	.06	.01	.07	.03	.01	.00	.08	.07	.06	-.06	-.09	.15	.03	.18	.11
.05	.16	-.12	.01	-.02	.00	.02	.08	-.01	.00	.00	.06	.01	-.05	-.04	.09	.01	.06	-.08	-.17	.18	.07	.23	.13
.04	.16	-.13	.01	-.03	.00	.02	.07	.01	-.01	.01	.06	.03	-.03	.04	.07	.02	.09	-.03	-.16	.17	.06	.22	.13
.06	.82	-.19	.04	-.02	.06	.10	.45	.22	.23	.03	.06	.08	.14	.17	.08	.25	.04	.06	.05	.19	-.01	.24	.07
-.03	.04	.00	-.03	-.04	-.01	.26	.03	.04	-.03	.01	.01	.01	-.06	-.02	-.04	-.03	-.05	.01	-.07	.00	.01	.01	.05
.03	.19	-.08	.06	.00	.01	.03	.18	.13	.09	.00	.11	.03	.12	.07	.03	.11	-.04	.07	.07	.10	.02	.11	.06
.05	.07	.02	.08	.02	.04	-.03	.09	.08	.05	-.03	.06	.01	.11	.05	.00	.09	-.06	.02	.14	-.01	-.08	.03	-.03
-.02	.05	-.09	-.08	-.06	-.03	.20	.01	-.01	-.03	-.02	.02	.03	-.06	-.01	.00	.00	.02	.00	-.08	.06	.00	.09	.09
.00	.06	-.08	.06	-.04	.03	-.02	.03	.00	.03	.00	.06	.02	.05	-.02	.09	.04	.01	-.01	-.06	.17	.04	.14	.07
.01	.04	-.09	.05	-.02	.06	-.01	.04	-.04	.00	.01	.05	.01	.06	.00	.07	.04	.01	.01	-.05	.18	-.03	.15	.04
.01	.16	-.13	.03	-.04	.03	.01	.07	.02	.04	.04	.08	.03	.00	.00	.05	.04	.05	-.05	-.10	.22	.02	.23	.12
.00	.18	-.16	.03	-.05	.05	.02	.09	.01	.03	.02	.05	.03	.01	.01	.04	.06	.04	-.04	-.11	.24	.01	.26	.12
.01	.18	-.17	.07	.03	.05	-.05	.19	.07	.21	.02	.08	.02	.18	.10	.06	.18	-.01	.06	.09	.06	-.02	.08	.01
.00	-.02	.09	.04	.03	.00	.07	.04	.01	-.04	-.01	.03	.02	.00	.02	.00	.01	-.02	-.01	.00	-.04	.01	-.03	-.01
-.04	-.02	-.03	.04	-.03	.05	-.03	-.06	-.06	-.08	.00	-.04	-.04	-.07	-.02	.01	-.05	.06	-.02	-.05	.07	-.08	.06	.00
-.01	-.08	.17	-.01	.02	-.06	.06	-.10	.01	-.10	.00	-.04	.01	-.08	-.06	-.02	-.08	-.02	-.03	-.02	-.07	.05	-.07	.00
.04	-.02	-.10	-.04	-.01	-.02	-.01	-.05	-.06	.00	.01	.03	.02	-.05	-.02	.05	.00	.04	-.03	-.17	.09	.16	.11	.16
.03	.03	-.10	.04	-.03	.03	.02	.06	.02	.02	-.02	.06	.02	-.06	-.05	.06	-.02	.01	-.05	-.15	.08	.12	.16	.11
.04	.04	-.06	.01	.01	.00	-.03	.08	.04	.06	.01	.08	.04	.01	.04	.05	.04	.03	-.01	.00	.07	.08	.08	.08
.03	.19	.04	.13	.08	.03	-.07	.25	.26	.25	.03	.08	.10	.27	.21	.05	.29	.02	-.05	.49	-.06	-.07	-.07	-.10
.01	.10	.11	.05	.07	-.02	-.01	.13	.19	.13	.04	.02	.08	.15	.12	-.01	.15	-.03	-.06	.36	-.15	.00	-.12	-.09
.03	.14	.04	.10	.01	-.06	-.03	.14	.10	.06	-.01	.02	.02	.08	.07	-.01	.09	.05	-.01	.14	.06	-.08	.02	-.03
-.02	.03	-.09	-.10	-.06	-.08	.31	-.04	-.04	-.05	.01	-.01	.00	-.08	-.09	.04	-.07	.03	.01	-.09	.00	.06	.01	.04
.00	-.09	-.06	-.06	.02	-.06	.09	.11	-.04	.10	-.05	.01	.05	.00	.06	.03	.04	-.01	.02	.00	.04	.04	.06	.10
.01	-.02	-.03	.01	-.03	.01	-.07	-.05	-.03	-.03	.00	.01	.02	-.04	-.02	.01	.00	.05	-.03	-.09	.07	.03	.07	.06

35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	5
-.11	.07	-.06	-.10	-.13	-.05	-.11	-.13	-.10	-.21	-.13	-.15	-.07	-.13	.00	-.12	-.11	-.10	-.09	.00	-.22	-.14	-.03	-.2
-.07	.07	-.01	-.06	-.11	-.03	-.06	-.08	-.07	-.14	-.09	-.12	-.03	-.07	-.03	-.05	-.04	-.01	-.05	.03	-.16	-.13	.02	-.1
-.05	.04	-.03	-.11	-.08	-.02	-.07	-.08	-.08	-.11	-.06	-.04	-.04	-.08	-.03	-.07	-.10	-.08	.00	.00	-.12	-.10	.00	-.1
.01	-.21	-.20	.01	.08	-.07	-.02	.01	-.01	-.05	.05	.26	.04	.08	.09	-.08	-.17	-.18	.23	-.14	.11	.21	-.11	-.0
-.11	-.19	-.10	-.11	.04	-.09	-.13	.00	-.04	-.09	-.06	.09	.00	-.04	.03	-.11	-.16	-.14	.07	-.08	.04	.12	-.09	-.1
-.04	.02	.00	-.05	.00	.00	-.06	-.04	.03	-.04	-.03	-.06	.02	-.04	.14	-.02	-.02	-.04	-.09	.00	-.04	.01	.01	-.0
-.10	-.13	-.11	-.11	.02	-.09	-.16	-.06	-.06	-.14	-.08	.02	-.02	-.07	.06	-.13	-.19	-.18	.00	-.06	-.04	.07	-.06	-.1
.04	.07	.09	.00	.03	.10	.07	.05	-.02	.03	.03	.01	.01	.05	-.02	.05	.06	.03	.04	-.05	-.06	-.03	.01	.0
.07	.02	.01	.07	.01	.03	.06	.03	.03	.06	.08	.09	.03	.04	.02	.02	.01	.00	.08	-.08	.02	.02	-.03	.1
.03	.12	.05	.02	-.03	.02	.04	.07	.00	-.01	.00	-.02	.04	.04	-.05	.06	.08	.07	.06	-.02	.00	.00	.01	-.0
.05	.07	.06	.01	.02	.04	.04	.09	.00	.01	.02	.01	.05	.06	-.04	.07	.05	.04	.06	-.03	.03	.05	-.02	.0
.16	-.06	.01	.06	-.03	-.08	.13	.12	.06	.08	.16	.35	.15	.27	-.03	.20	.16	.16	.82	.04	.19	.07	.05	.0
-.11	-.02	-.05	-.07	.00	-.04	-.12	-.06	-.05	-.08	-.10	-.13	-.07	-.12	.01	-.13	-.12	-.13	-.19	.00	-.08	.02	-.09	-.0
.03	-.05	.01	.03	.02	-.06	.03	.03	.04	.05	.08	.10	.00	.02	-.03	.04	.01	.01	.04	-.03	.06	.08	-.08	.0
-.03	-.01	-.02	-.06	.00	.00	-.02	.00	.00	-.02	-.03	.01	-.01	-.03	.00	-.04	-.02	-.03	-.02	-.04	.00	.02	-.06	-.0
.01	-.02	.00	.01	.01	-.03	.01	.04	.03	.02	.03	.06	.00	.01	.01	.03	.00	.00	.06	-.01	.01	.04	-.03	.0
.02	.01	.01	.00	.05	.01	.01	.04	.02	-.02	.03	.07	.00	-.02	.00	.02	.02	.02	.10	.26	.03	-.03	.20	-.0
.13	-.03	-.02	.05	-.01	-.03	.07	.11	.05	.03	.10	.22	.09	.14	-.03	.18	.08	.07	.45	.03	.18	.09	.01	.0
.03	-.04	-.04	.02	.02	-.04	.03	.07	.01	-.02	.01	.12	.04	.06	.00	.04	-.01	.01	.22	.04	.13	.08	-.01	.0
.09	.01	-.03	.01	.04	.01	.06	.06	.02	.01	.06	.18	.03	.08	.03	.06	.00	-.01	.23	-.03	.09	.05	-.03	.0
.06	.00	-.03	.06	-.01	.00	-.01	.01	.02	.01	.01	.04	.01	.01	.00	.01	.00	.01	.03	.01	.00	-.03	-.02	.0
.09	.06	.07	.03	.03	.05	.11	.15	.01	.06	.07	.08	.02	.06	-.01	.07	.06	.06	.06	.01	.11	.06	.02	.0
.07	.03	.01	.00	.02	.04	.03	.03	.00	-.02	.00	.07	.02	.03	-.03	.03	.01	.03	.08	.01	.03	.01	.03	.0
.11	-.01	-.04	.01	.08	.04	.03	.06	.10	.02	.07	.18	.05	.09	.04	.01	-.05	-.03	.14	-.06	.12	.11	-.06	.0
.07	.01	-.03	.00	.02	.02	.04	.07	.02	.00	.07	.13	.03	.05	.03	.00	-.04	.04	.17	-.02	.07	.05	-.01	-.0
.14	.05	.05	.04	.03	.05	.13	.05	.05	.05	.09	.09	.07	.09	.00	.08	.09	.07	.08	-.04	.03	.00	.00	.0
.20	.04	-.01	.02	.06	.05	.12	.09	.07	.03	.14	.23	.08	.13	.02	.07	.01	.02	.25	-.03	.11	.09	.00	.0
.02	.02	.04	.00	-.04	-.02	.07	.04	-.01	.10	.09	.09	-.02	.02	-.10	.06	.06	.09	.04	-.05	-.04	-.06	.02	.0
-.04	-.05	-.05	.05	.04	.02	-.03	-.05	-.08	-.02	-.04	-.01	.05	.00	.11	-.06	-.08	-.03	.06	.01	.07	.02	.00	-.0
-.05	-.13	-.12	-.07	.03	-.07	-.08	-.02	.01	-.07	-.01	.13	-.01	-.02	.05	-.09	-.17	-.16	.05	-.07	.07	.14	-.08	-.0
.35	.08	.12	.15	.00	.00	.34	.14	.10	.22	.28	.27	.10	.19	-.03	.15	.18	.17	.19	.00	.10	-.01	.06	.1
.16	.34	.17	-.04	.04	.14	.08	.02	-.01	.03	.00	-.09	.04	.02	.00	.03	.07	.06	-.01	.01	.02	-.08	.00	.0
.32	.08	.09	.16	-.01	.02	.32	.16	.08	.19	.24	.24	.14	.23	-.03	.18	.23	.22	.24	.01	.11	.03	.09	.1
.19	.17	.14	.07	.00	.11	.19	.07	.04	.12	.12	.04	.07	.08	-.03	.11	.13	.13	.07	.05	.06	-.03	.09	.0
	.13	.09	.12	.00	.07	.26	.10	.08	.13	.24	.21	.10	.17	-.01	.14	.15	.13	.21	.05	.07	-.02	.11	.1
.13		.25	.00	.01	.14	.10	.06	.03	.07	.10	-.01	.03	.03	-.01	.05	.05	.07	-.02	.01	-.01	-.08	.07	.0
.09	.25		-.05	.08	.07	.13	.14	.04	.22	.14	.07	.07	.06	-.02	.09	.12	.11	.03	-.02	.07	-.03	.02	.0
.12	.00	-.05		-.05	.00	.14	.10	.06	.05	.13	.11	.08	.09	.05	.03	.06	.09	.07	.01	.06	.02	.08	.0
.00	.01	.08	-.05		.13	.05	.12	.04	.09	.06	.06	.01	.00	.08	-.02	-.04	-.06	-.02	.00	.11	.04	-.01	.0
.07	.14	.07	.00	.13		.28	.11	.04	.07	.06	.01	.06	.05	.03	.05	.06	.06	-.05	-.02	-.02	-.05	.05	.0
.26	.10	.13	.14	.05	.28		.19	.09	.20	.28	.26	.10	.18	-.39	.17	.18	.20	.16	-.01	.06	-.03	.14	.1
.10	.06	.14	.10	.12	.11	.19		.10	.33	.29	.26	.03	.07	-.04	.10	.09	.09	.15	.00	.24	.13	.03	.1
.08	.03	.04	.06	.04	.04	.09	.10		.10	.13	.13	.03	.06	-.04	.08	.09	.06	.09	.06	.04	-.01	.04	.1
.13	.07	.22	.05	.09	.07	.20	.33	.10		.44	.30	.03	.08	-.04	.09	.11	.12	.08	-.04	.11	.01	.00	.1
.24	.10	.14	.13	.06	.06	.28	.29	.13	.44		.40	.06	.10	-.02	.10	.10	.12	.18	.03	.12	.04	.14	.1
.21	-.01	.07	.11	.06	.01	.26	.26	.13	.30	.40		.06	.15	-.05	.12	.11	.12	.35	.03	.17	.05	.12	.1
.10	.03	.07	.08	.01	.06	.10	.03	.03	.03	.06	.06		.50	.49	.24	.35	.35	.16	-.01	.01	-.01	.04	.0
.17	.03	.06	.09	.00	.05	.18	.07	.06	.08	.10	.15	.50		.23	.34	.51	.46	.28	-.02	.04	-.02	.05	.0
-.01	-.01	-.02	.05	.08	.03	-.39	-.04	-.04	-.04	-.02	-.05	.49	.23		-.08	-.07	-.10	-.06	-.03	-.12	.02	.00	-.0
.14	.05	.09	.03	-.02	.05	.17	.10	.08	.09	.10	.12	.24	.34	-.08		.55	.38	.23	.01	-.01	-.05	.07	.1
.15	.05	.12	.06	-.04	.06	.18	.09	.09	.11	.10	.11	.35	.51	-.07	.55		.59	.22	.00	-.03	-.09	.08	.1
.13	.07	.11	.09	-.06	.06	.20	.09	.06	.12	.12	.12	.35	.46	-.10	.38	.59		.22	.03	.01	-.07	.09	.0
.21	-.02	.03	.07	-.02	-.05	.16	.15	.09	.08	.18	.35	.16	.28	-.06	.23	.22	.22		.07	.20	.07	.07	.0
.05	.01	-.02	.01	.00	-.02	-.01	.00	.06	-.04	.03	.03	-.01	-.02	-.03	.01	.00	.03	.07		.04	.01	.21	.0
.07	-.01	.07	.06	.11	-.02	.06	.24	.04	.11	.12	.17	.01	.04	-.12	-.01	-.03	.01	.20	.04		.33	-.02	.0
-.02	-.08	-.03	.02	.04	-.05	-.03	.13	-.01	.01	.04	.05	-.01	-.02	.02	-.05	-.09	-.07	.07	.01	.33		-.03	-.0
.11	.07	.02	.08	-.01	.05	.14	.03	.04	.00	.14	.12	.04	.05	.00	.07	.08	.09	.07	.21	-.02	-.03		-.0
.11	.00	.02	.05	.00	.06	.17	.10	.10	.12	.10	.10	.04	.09	-.02	.10	.10	.08	.07	.00	.02	-.01	-.05	
.08	-.02	.01	.05	.02	.02	.15	.14	.06	.12	.08	.09	.02	.08	-.02	.09	.09	.05	.05	.01	.04	.02	-.04	.4
.14	.06	.07	.07	.06	.06	.21	.19	.08	.14	.14	.16	.06	.15	-.03	.14	.18	.16	.17	.02	.10	-.01	.10	.1
.17	.06	.08	.08	.07	.05	.21	.22	.09	.16	.17	.19	.09	.17	-.03	.16	.21	.20	.21	.04	.15	.01	.11	.1
.07	-.02	-.05	.05	.03	.01	.04	.04	.04	.05	.06	.12	.04	.09	.01	.05	.03	.03	.17	-.04	.07	.06	-.03	.0
-.02	.01	.02	-.03	.02	.03	-.01	.02	-.01	-.01	-.02	-.02	-.01	-.01	-.01	-.01	.02	.01	.00	.02	.00	-.02	.01	-.0
.02	-.02	.00	.03	-.03	-.04	.04	.01	-.01	.02	.03	.01	-.02	-.01	-.01	.01	.01	.02	-.04	.00	-.01	-.01	.06	.0
-.04	.02	.03	-.03	-.01	-.02	-.04	-.01	-.02	-.02	-.02	-.05	-.02	-.07	-.01	-.03	-.03	-.03	-.08	.04	-.04	-.03	-.01	-.0
.08	.18	.09	.05	-.07	.06	.08	.00	.01	.03	.03	.00	.06	.10	-.02	.17	.15	.15	.00	.01	-.05	-.10	.05	.0
.09	.04	.07	.04	-.05	.10	.16	.03	.08	.07	.03	.06	.14	.16	-.04	.19	.21	.24	.07	.00	.00	-.07	.05	.1
.06	.04	.04	.02	.00	.05	.08	.03	.01	.04	.01	.03	.04	.07	-.05	.12	.09	.10	.04	-.03	-.02	-.04	-.01	.0
-.02	-.10	-.10	-.01	.01	-.08	-.02	.03	-.04	-.07	.02	.17	.04	.06	.01	-.03	-.09	-.07	.16	-.13	.08	.12	-.14	-.0
-.06	-.05	-.05	-.09	-.04	-.05	-.05	-.02	-.04	-.11	-.05	.06	.02	.00	-.01	-.04	-.08	-.05	.08	-.04	-.01	.03	-.04	-.1
-.01	-.07	.01	.01	.04	-.09	-.01	.10	.03	.04	.06	.12	.02	.03	.00	.01	-.02	.00	.12	-.01	.20	.21	-.05	-.0
.05	.06	.05	.04	.00	.03	.08	.04	.06	.00	.04	.08	.03	.04	.02	.05	.10	.11	.05	.18	-.03	-.11	.34	.0
.00	.03	.04	-.02	.11	.07	.01	.01	.00	.02	.00	.00	.01	-.02	-.04	.02	.08	.11	-.02	.03	.01	-.05	.15	.0
.06	.05	.04	.06	-.02	.05	.08	.02	.01	.01	.07	.00	.02	.06	-.02	.06	.06	.05	-.01	-.01	-.07	-.06	.31	-.0

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54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	Mean	S.D.	
.00	-.22	-.14	-.03	-.28	-.32	-.20	-.27	-.18	-.06	.00	.14	-.05	-.07	-.06	.20	.40	-.07	-.08	-.22	.02	1.74	.43	1
.03	-.16	-.13	.02	-.19	-.23	-.14	-.17	-.13	.06	-.02	.10	-.01	-.05	-.01	.12	.29	-.06	.05	-.13	.01	4.45	.91	2
.00	-.12	-.10	.00	-.19	-.24	-.15	-.18	-.09	.06	-.04	.09	-.08	-.05	-.01	.22	.32	-.02	.04	-.11	.00	4.98	1.19	3
.14	.11	.21	-.11	-.01	.02	-.06	-.08	.16	-.02	-.06	-.06	-.25	-.11	-.02	.57	.34	.21	-.17	-.02	-.10	3.68	1.68	4
.08	.04	.12	-.09	-.12	-.11	-.14	-.16	.04	.02	-.06	.02	-.35	-.19	-.06	.50	.42	.13	-.09	-.07	-.13	1.56	.50	5
.00	-.04	.01	.01	-.04	-.05	-.06	-.04	-.02	.00	-.02	.03	.19	-.04	-.03	.04	.09	.00	.01	-.04	-.01	3.60	1.37	6
.06	-.04	.07	-.06	-.19	-.19	-.16	-.20	-.03	.04	-.07	.08	-.30	-.16	-.11	.45	.46	.10	-.08	-.12	-.06	2.47	1.67	7
.05	-.06	-.03	.01	.02	.01	.04	.03	.00	.05	-.06	.01	-.02	.03	.03	-.06	-.02	-.05	.02	.10	-.02	3.43	.76	8
.08	.02	.02	-.03	.10	.11	.06	.08	.14	-.08	.03	-.10	.05	-.02	.01	-.08	-.20	.02	-.09	-.11	.06	1.50	.50	9
.02	.00	.00	.01	-.01	-.02	.01	-.02	-.02	.00	-.03	.02	.04	.01	.04	-.01	.02	.01	.03	-.02	.02	4.32	.76	10
.03	.03	.05	-.02	.00	.01	.01	.00	.01	.00	-.04	-.01	.04	.03	.04	.03	.01	.03	-.02	.00	.01	3.34	.89	11
.04	.19	.07	.05	.06	.04	.16	.18	.18	-.02	-.02	-.08	-.02	.03	.04	.19	.10	.14	.03	-.09	-.02	2.42	1.52	12
.00	-.08	.02	-.09	-.08	-.09	-.13	-.16	-.17	.09	-.03	.17	-.10	-.10	-.06	.04	.11	.04	-.09	-.06	-.03	1.43	.50	13
.03	.06	.08	-.08	.06	.05	.03	.03	.07	.04	.04	-.01	-.04	.04	.01	.13	.05	.10	-.10	-.06	.01	1.41	.49	14
.04	.00	.02	-.06	-.04	-.02	-.04	-.05	.03	.03	-.03	.02	-.01	-.03	.01	.08	.07	.01	-.06	.02	-.03	1.06	.25	15
.01	.01	.04	-.03	.03	.06	.03	.05	.05	.00	.05	-.06	-.02	.03	.00	.03	-.02	.06	-.08	-.06	.01	1.02	.15	16
.26	.03	-.03	.20	-.02	-.01	.01	.02	-.05	.07	-.03	.06	-.01	.02	-.03	-.07	-.01	-.03	.31	.09	-.07	1.59	.49	17
.03	.18	.09	.01	.03	.04	.07	.09	.19	.04	-.06	-.10	-.05	.06	.08	.25	.13	.14	-.04	.11	-.05	3.57	1.17	18
.04	.13	.08	-.01	.00	-.04	.02	.01	.07	.01	-.06	.01	-.06	.02	.04	.26	.19	.10	-.04	-.04	-.03	2.45	.59	19
.03	.09	.05	-.03	.03	.00	.04	.03	.21	-.04	-.08	-.10	.00	.02	.06	.25	.13	.06	-.05	.10	-.03	1.66	1.03	20
.01	.00	-.03	-.02	.00	.01	.04	.02	.02	-.01	.00	.00	.01	-.02	.01	.03	.04	-.01	.01	-.05	.00	1.07	1.27	21
.01	.11	.06	.02	.06	.05	.08	.05	.08	.03	-.04	-.04	.03	.06	.08	.08	.02	.02	-.01	.01	.01	2.98	.73	22
.01	.03	.01	.03	.02	.01	.03	.03	.02	.02	-.04	.01	.02	.02	.04	.10	.08	.02	.00	.05	.02	1.17	.39	23
.06	.12	.11	-.06	.05	.06	.00	.01	.18	.00	-.07	-.08	-.05	-.06	.01	.27	.15	.08	-.08	.00	-.04	1.26	.43	24
.02	.07	.05	-.01	-.02	.00	.00	.01	.10	.02	-.02	-.06	-.02	-.05	.04	.21	.12	.07	-.09	.06	-.02	1.38	.48	25
.04	.03	.00	.00	.09	.07	.05	.04	.06	.00	.01	-.02	.05	.06	.05	.05	-.01	-.01	.04	.03	.01	1.07	.26	26
.03	.11	.09	.00	.04	.04	.04	.06	.18	.01	-.05	-.08	.00	-.02	.04	.29	.15	.09	-.07	.04	.00	2.21	1.45	27
.05	-.04	-.06	.02	.01	.01	.05	.04	-.01	-.02	.06	-.02	.04	.01	.03	.02	-.03	.05	.03	-.01	.05	1.40	.49	28
.01	.07	.02	.00	-.01	.01	-.05	-.04	.06	-.01	-.02	-.03	-.03	-.05	-.01	-.05	-.06	-.01	.01	.02	-.03	1.15	.36	29
.07	.07	.14	-.08	-.06	-.05	-.10	-.11	.09	.00	-.05	-.02	-.17	-.15	.00	.49	.36	.14	-.09	.00	-.09	1.43	.49	30
.00	.10	-.01	.06	.17	.18	.22	.24	.06	-.04	.07	-.07	.09	.08	.07	-.06	-.15	.06	.00	.04	.07	1.37	.62	31
.01	.02	-.08	.00	.04	-.03	.02	.01	-.02	.01	-.08	.05	.16	.12	.08	-.07	.00	-.08	.06	.04	.03	2.11	.83	32
.01	.11	.03	.09	.14	.15	.23	.26	.08	-.03	.06	-.07	.11	.16	.08	-.07	-.12	.02	.01	.06	.07	1.30	.59	33
.05	.06	-.03	.09	.07	.04	.12	.12	.01	-.01	.00	.00	.16	.11	.08	-.10	-.09	-.03	.04	.10	.06	1.31	.56	34
.05	.07	-.02	.11	.11	.08	.14	.17	.07	-.02	.02	-.04	.08	.09	.06	-.02	-.06	-.01	.05	.00	.06	1.39	.66	35
.01	-.01	-.08	.07	.00	-.02	.06	.06	-.02	.01	-.02	.02	.18	.04	.04	-.10	-.05	-.07	.06	.03	.05	2.03	.85	36
.02	.07	-.03	.02	.02	.01	.07	.08	-.05	.02	.00	.03	.09	.07	.04	-.10	-.05	.01	.05	.04	.04	1.99	.75	37
.01	.06	.02	.08	.05	.05	.07	.08	.05	-.03	.03	-.03	.05	.04	.02	-.01	-.09	.01	.04	-.02	.06	3.08	1.18	38
.00	.11	.04	-.01	.00	.02	.06	.07	.03	.02	-.03	-.01	-.07	-.05	.00	.01	-.04	.04	.00	.11	-.02	1.47	.50	39
.02	-.02	-.05	.05	.06	.02	.06	.05	.01	.03	-.04	-.02	.06	.10	.05	-.08	-.05	-.09	.03	.07	.05	1.90	.87	40
.01	.06	-.03	.14	.17	.15	.21	.21	.04	-.01	.04	-.04	.08	.16	.08	-.02	-.05	-.01	.08	.01	.08	1.69	1.09	41
.00	.24	.13	.03	.10	.14	.19	.22	.04	.02	.01	-.01	.00	.03	.03	.03	-.02	.10	.04	.01	.02	2.45	.72	42
.06	.04	-.01	.04	.10	.06	.08	.09	.04	-.01	-.01	-.02	.01	.08	.01	-.04	-.04	.03	.06	.00	.01	1.78	.60	43
.04	.11	.01	.00	.12	.12	.14	.16	.05	-.01	.02	-.02	.03	.07	.04	-.07	-.11	.04	.00	.02	.01	1.62	1.14	44
.03	.12	.04	.14	.10	.08	.14	.17	.06	-.02	.03	-.02	.03	.03	.01	.02	-.05	.06	.04	.00	.07	2.25	1.09	45
.03	.17	.05	.12	.10	.09	.16	.19	.12	-.02	.01	-.05	.00	.06	.03	.17	.06	.12	.08	.00	.00	2.63	1.52	46
.01	.01	-.01	.04	.04	.02	.06	.09	.04	-.01	-.02	-.02	.06	.14	.04	.04	.02	.02	.03	.01	.02	3.42	1.55	47
.02	.04	-.02	.05	.09	.08	.15	.17	.09	-.01	-.01	-.07	.10	.16	.07	.06	.00	.03	.04	-.02	.06	1.65	1.10	48
.03	-.12	.02	.00	-.02	-.02	-.03	-.03	.01	-.01	-.01	-.01	-.02	-.04	-.05	.01	-.01	.00	.02	-.04	-.02	3.02	1.57	49
.01	-.01	-.05	.07	.10	.09	.14	.16	.05	-.01	.01	-.03	.17	.19	.12	-.03	-.04	.01	.05	.02	.06	3.15	1.16	50
.00	-.03	-.09	.08	.10	.09	.18	.21	.03	.02	.01	-.03	.15	.21	.09	-.09	-.08	-.02	.10	.08	.06	2.84	2.36	51
.03	.01	-.07	.09	.08	.05	.16	.20	.03	.01	.02	-.03	.15	.24	.10	-.07	-.05	.00	.11	.11	.05	2.59	1.83	52
.07	.20	.07	.07	.07	.05	.17	.21	.17	.00	-.04	-.08	.00	.07	.04	.16	.08	.12	.05	-.02	-.01	4.89	1.83	53
	.04	.01	.21	.00	.01	.02	.04	-.04	.02	.00	.04	.01	.00	-.03	-.13	-.04	-.01	.18	.03	-.01	4.16	1.38	54
.04		.33	-.02	.02	.04	.10	.15	.07	.00	-.01	-.04	-.05	.00	-.02	.08	-.01	.20	-.03	.01	-.07	3.06	.86	55
.01	.33		-.03	-.01	.02	-.01	.01	.06	-.02	-.01	-.03	-.10	-.07	-.04	.12	.03	.21	-.11	-.05	-.06	2.04	.63	56
.21	-.02	-.03		-.05	-.04	.10	.11	-.03	.01	.06	-.01	.05	.05	-.01	-.14	-.04	-.05	.34	.15	.31	2.12	1.21	57
.00	.02	-.01	-.05		.49	.16	.16	.06	-.02	.01	-.05	.06	.11	.03	-.08	-.13	-.01	.07	.07	-.04	1.44	.49	58
.01	.04	.02	-.04	.49		.18	.18	.06	-.03	.05	-.07	.03	.08	.05	-.06	-.15	-.02	.00	.03	.00	1.32	.47	59
.02	.10	-.01	.10	.16	.18		.75	.05	-.02	.03	-.02	.08	.10	.06	-.05	-.11	.03	.06	.06	.06	1.34	.65	60
.04	.15	01	.11	.16	.18	.75		.06	-.02	.03	-.03	.08	.11	.04	-.08	-.15	.03	.04	.04	.06	1.44	.75	61
.04	.07	.06	-.03	.06	.06	.05	.06		-.10	-.08	-.56	-.02	.08	.04	.09	-.06	.04	-.07	-.02	.01	1.11	.32	62
.02	.00	-.02	.01	-.02	-.03	-.02	-.02	-.10		-.09	-.25	-.04	.02	.00	.01	.05	.02	.04	.03	.02	1.15	.35	63
.00	-.01	-.01	.06	.01	.05	.03	.03	-.08	-.09		-.35	.01	-.03	-.03	-.05	.05	.01	.01	.00	.02	1.05	.23	64
.04	-.04	-.03	-.01	-.05	-.07	-.02	-.03	-.56	-.25	-.35		-.02	-.03	-.03	-.01	.09	-.03	.05	-.03	-.04	1.79	.40	65
.01	-.05	-.10	.05	.06	.03	.08	.08	-.02	-.04	.01	-.02		.24	.21	-.11	-.12	-.07	.08	.06	.07	2.49	.70	66
.00	.00	-.07	.05	.11	.08	.10	.11	.08	.02	-.03	-.03	.24		.56	.00	-.02	-.02	.14	.03	.10	3.50	2.03	67
.03	-.02	-.04	-.01	.03	.05	.06	.04	.04	.00	-.03	-.03	.21	.56		.11	.05	-.02	.01	.14	.03	5.46	2.29	68
.13	.08	.12	-.14	-.08	-.06	-.05	-.08	.09	.01	-.05	-.01	-.11	.00	.11		.55	.16	-.15	-.03	-.08	2.83	.93	69
.04	-.01	.03	-.04	-.13	-.15	-.11	-.15	-.06	.05	.05	.09	-.12	-.02	.05	.55		.07	-.04	-.04	-.05	3.15	1.23	70
.01	.20	.21	-.05	-.01	-.02	.03	.03	.04	.02	.01	-.03	-.07	-.02	-.02	.16	.07		-.06	.31	-.02	53.91	18.46	71
.18	-.03	-.11	.34	.07	.00	.06	.04	-.07	.04	.01	.05	.08	.14	.01	-.15	-.04	-.06		-.91	-.37	7.99	5.30	72
.03	.01	-.05	.15	.07	.03	.06	.04	-.02	.03	.00	-.03	.06	.03	.14	-.03	-.04	.31	-.91		-.31	4.10	2.33	73
.01	-.07	-.06	.31	-.04	.00	.06	.06	.01	.02	.02	-.04	.07	.10	.03	-.08	-.05	-.02	-.37	-.31		.57	.80	74

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Intercorrelations of Biographical Da

Sample 2 - Fall, 1962-63

VARIABLE		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Sex	1		.67	.63	.04	.21	.07	.36	.04	-.09	.06	.00	-.04	.19	-.19
2 Height	2	.67		.67	-.01	.13	.04	.24	.04	-.06	.05	.01	-.02	.14	-.14
3 Weight	3	.63	.67		.19	.26	.05	.36	.03	-.06	.06	.01	.02	.12	-.09
4 Age	4	.04	-.01	.19		.57	-.08	.51	-.11	.04	-.08	-.02	.34	.01	.10
5 Marital Status	5	.21	.13	.26	.57		.01	.66	.03	-.06	-.03	.02	.14	.09	.02
6 No. in Household	6	.07	.04	.05	-.08	.01		.33	-.09	-.04	.00	.01	-.15	-.02	-.05
7 No. of Dependents	7	.36	.24	.36	.51	.66	.33		-.08	-.11	-.01	.02	.08	.11	.00
8 Spouse Attitd. to UC Attndnce.	8	.04	.04	.03	-.11	.03	-.09	-.08		.04	.20	.19	-.04	.02	-.04
9 How Tuition is Paid	9	-.09	-.06	-.06	.04	-.06	-.04	-.11	.04		.04	-.01	.07	-.08	.05
10 Gen'l. Health Last 3 Yrs.	10	.06	.05	.06	-.08	-.03	.00	-.01	.20	.04		.43	.06	.00	-.04
11 How do you Sleep	11	.00	.01	.01	-.02	.02	.01	.02	.19	-.01	.43		.05	-.01	-.01
12 No. College Hrs. Compltd.	12	-.04	-.02	.02	.34	.14	-.15	.08	-.04	.07	.06	.05		-.18	.05
13 UC Courses-Better Job	13	.19	.14	.12	.01	.09	-.02	.11	.02	-.08	.00	-.01	-.18		-.01
14 UC Courses-Persnl. Satisfctn.	14	-.19	-.14	-.09	.10	.02	-.05	.00	-.04	.05	-.04	-.01	.05	-.01	
15 UC Courses-Employer Request	15	.03	.01	.05	.07	.06	-.02	.07	-.03	-.11	-.01	.01	.05	.01	-.02
16 UC Courses-Develop Hobby	16	-.09	-.06	-.04	.02	-.02	-.02	-.03	.00	.08	-.01	.00	.03	-.02	.06
17 UC Courses-Complt. Deg., Cert.	17	.08	.07	.05	-.13	-.03	.03	-.05	.05	-.03	.03	.01	.03	-.30	-.36
18 Occupation of Respondent	18	-.04	-.03	.05	.40	.23	-.09	.20	-.01	.00	.05	.04	.50	-.12	.08
19 Current Occupation Demands	19	.04	.03	.08	.27	.18	-.06	.20	.01	-.06	.01	.02	.24	-.03	.03
20 Supervsn. of Others-How Many	20	.02	.01	.11	.34	.22	-.01	.22	.02	.05	.05	.05	.27	-.06	.05
21 More than One Paid Job-How Many	21	.06	.04	.05	.01	.00	.02	.04	-.02	.05	.00	.01	.02	.00	.00
22 Progress on Job	22	-.06	-.03	-.03	-.03	.02	.02	.01	.15	.02	.16	.14	.01	-.07	.03
23 Membrshp. Frat. Organizations	23	.08	.07	.13	.16	.08	.03	.11	.01	.03	.06	.03	.13	-.02	.01
24 Membrshp. Community Activities	24	-.06	-.06	.03	.40	.31	.16	.31	-.04	.06	.00	.02	.21	-.05	.06
25 Membrshp. Career Organizations	25	.08	.07	.14	.25	.16	-.04	.16	.00	.05	.04	.03	.24	-.01	.05
26 Membrshp. Political Groups	26	-.03	-.01	.01	.11	.02	-.01	.01	-.01	.04	.00	.02	.11	-.02	.01
27 Total Membrshps. Groups Listed	27	.02	.02	.11	.36	.20	.04	.20	-.04	.08	.05	.04	.33	-.05	.08
28 Attndnce. Church or Synagogue	28	.02	.00	.01	.00	-.04	-.15	-.07	-.03	-.01	-.04	-.09	.04	-.03	.04
29 Type of Community Resided in	29	-.04	-.06	-.05	.04	.04	-.06	-.01	-.02	-.01	-.03	-.02	.09	.03	.00
30 Home Owner	30	.08	.03	.17	.62	.62	.13	.56	-.09	-.04	-.06	.00	.09	.05	.06
31 Attndnce. Past Yr.-Art Exhbts.	31	-.22	-.15	-.16	.00	-.16	-.11	-.21	.02	.10	.03	.02	.19	-.16	.06
32 Attndnce. Past Yr.-Athltc. Evts.	32	.12	.13	.10	-.24	-.18	.09	-.10	.07	-.04	.13	.09	-.06	-.04	-.06
33 Attndnce. Past Yr.-Class. Cncrts.	33	-.20	.14	-.15	.00	-.18	-.10	-.18	.07	.07	.02	.04	.21	-.13	.05
34 Attndnce. Past Yr.-Poplr. Cncrts.	34	-.07	.00	-.03	-.12	-.18	.01	-.16	.07	.04	.05	.04	.05	-.09	-.01
35 Attndnce. Past Yr.-Lectures	35	-.10	-.06	-.05	.00	-.09	-.02	-.08	.03	.02	.05	.02	.16	-.13	.02
36 Hrs. per Week-Active Recreation	36	.09	.10	.04	-.21	-.16	.05	-.12	.05	-.01	.15	.07	-.07	-.02	-.04
37 Hrs. per Week-Passive Recreation	37	-.03	.02	-.01	-.17	-.11	-.01	-.11	.10	-.06	.02	.01	.04	-.04	-.01
38 Hrs. per Week watching TV	38	-.06	-.04	-.09	-.06	-.13	-.04	-.12	.02	.04	.06	.04	.06	-.05	.03
39 Likes Crosswrd. Puzzl.,Quizzes	39	-.16	-.09	-.08	.07	.02	-.01	-.02	.03	.00	.00	.03	-.02	-.03	.04
40 Mags. Regly. Read-Cultural	40	-.04	-.02	-.01	-.08	-.07	.03	-.07	.04	.01	.03	.04	-.10	-.03	-.05
41 Mags. Regly. Read-Popular	41	-.10	-.04	-.06	-.01	-.11	-.07	-.13	.10	.04	.05	.04	.15	-.10	.02
42 Self Ratg. Rdg. Speed & Comp.	42	-.10	-.05	-.03	.03	.00	-.02	-.04	.06	.02	.10	.07	.16	-.07	.01
43 Has Use Public Library Card	43	-.20	-.13	-.16	-.73	-.12	.05	-.12	.00	.03	-.01	.00	.08	-.10	.05
44 No. Fiction Bks. Read Past 12 Mos.	44	-.19	-.14	-.12	-.06	-.10	.00	-.15	.00	.03	.00	-.01	.07	-.13	.05
45 No. Non-Fict. Bks. Read Past 12 Mos.	45	-.08	-.04	-.04	.03	-.04	-.01	-.06	.00	.03	.01	-.01	.16	-.11	.03
46 Est. No. Bks. Persnly. Owned	46	-.11	-.09	-.02	.27	.13	-.07	.05	.00	.06	-.01	.00	.39	-.17	.08
47 No. Family High Sch. Graduates	47	-.01	.01	-.01	.06	.03	.04	.03	.11	.00	.08	.05	.14	-.06	-.01
48 No. Family College Graduates	48	-.09	-.06	-.04	.11	.00	-.06	-.04	.05	.02	.05	.03	.29	-.10	.02
49 No. Brothers & Sisters	49	.05	.03	.02	.05	.05	.20	.08	.02	.02	.00	-.02	-.04	.04	-.01
50 Father's Occupation	50	-.12	-.08	-.09	-.10	-.13	-.03	-.18	.07	-.01	.06	.05	.16	-.12	.02
51 Father's Education	51	-.11	-.06	-.10	-.14	-.16	-.04	-.19	.10	-.03	.07	.03	.14	-.12	.01
52 Mother's Education	52	-.08	-.04	-.09	-.16	-.15	-.04	-.17	.08	-.01	.06	.02	.18	-.13	-.02
53 Education of Respondent	53	-.03	-.02	.03	.29	.10	-.14	.05	-.01	.05	.07	.06	.86	-.21	.03
54 Last School Attndnce.	54	.00	.01	-.07	-.45	-.32	.03	-.27	.01	-.07	.03	-.01	.01	-.09	-.08
55 Rank in High Sch. Class	55	-.20	-.13	-.12	.14	.08	-.03	.02	-.04	-.01	.03	.05	.26	-.06	.04
56 Grades Reflect Ability	56	-.15	-.13	-.10	.18	-.13	.00	.09	-.02	.02	.04	.07	.09	.00	.08
57 Aver. Hrs. Study per Week	57	.02	.04	.00	-.14	-.13	.00	-.11	.06	-.02	.05	.01	.10	-.12	-.13
58 Subject Matter you like Most	58	-.32	-.25	.23	-.04	-.15	-.03	-.19	.01	.09	.03	.01	.06	-.14	.06
59 Subject Matter you like Least	59	-.35	-.25	-.24	-.02	-.14	-.02	-.18	.01	.07	.02	.02	.03	-.12	.11
60 Speaks Foreign Language	60	-.16	-.13	-.12	-.10	-.16	-.02	-.14	.02	.03	.02	.00	.14	-.12	.02
61 Reads Foreign Language	61	-.23	-.17	-.18	-.11	-.17	-.02	-.19	-.01	.04	.02	.01	.18	-.14	.03
62 In 5 Yrs. Would Like Present Job	62	-.13	-.10	-.04	.21	.08	-.02	.04	-.04	.11	.02	.02	.18	-.16	.12
63 In 5 Yrs. Would Like Supervsry. Job	63	.06	.04	.05	-.04	.01	.02	.02	.01	-.03	.03	.04	.01	-.07	.03
64 In 5 Yrs. Woule Like Job Working Alone	64	-.01	.00	-.04	-.05	-.06	-.04	-.07	-.06	.03	-.04	-.05	.00	-.06	.01
65 In 5 Yrs. Job More Money and Respnblty.	65	.09	.07	.05	-.10	.00	.02	.01	.05	-.10	-.01	-.01	-.13	.18	-.04
66 No. Cars in Family	66	-.01	.01	-.04	-.29	-.35	.26	-.28	-.02	.04	.02	.00	-.09	-.07	-.01
67 Model Yr. Older Car (If 2 Owned)	67	-.08	-.08	-.09	-.11	-.18	-.01	-.19	.07	-.06	.06	.05	.03	-.08	.02
68 Model Yr. Only (Or Newer) Car Owned	68	-.03	-.04	.00	.02	.01	-.01	-.04	.01	-.03	.05	.04	.07	-.06	.02
69 Est. Annual Income All Sources	69	.19	.15	.27	.63	.56	-.01	.52	-.07	-.01	.02	.05	.29	.02	.12
70 Amount of Life Insurance	70	.37	.25	.33	.40	.44	.06	.50	-.03	-.14	.04	.07	.12	.10	.02
71 Grades: A=80, B=60, C=40, D=20, F=01	71	-.11	-.08	-.02	.20	.14	-.08	.08	-.04	.01	-.03	.03	.21	.02	.09
72 Semester Units (Units Earned x 2)	72	.06	.04	.02	-.26	-.16	.01	-.14	.05	-.13	.03	.01	-.08	-.14	-.16
73 Administrative Category	73	.00	-.04	-.02	-.06	-.06	.06	-.03	.03	-.09	.04	.02	-.12	.00	-.03
74 Aver. Hrs. Study per Wk. + Semestr. Units	74	.04	.05	.06	.01	-.04	.01	-.01	.01	.09	.01	-.01	.06	-.01	.01

ographical Data Items and Class Grades

all, 1962-63   N = 3769

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
.00	-.04	.19	-.19	.03	-.09	.08	-.04	.04	.02	.06	-.06	.08	-.06	.08	-.03	.02	.02	-.04	.08	-.22	.12	-.20	-.07
.01	-.02	.14	-.14	.01	-.06	.07	-.03	.03	.01	.04	-.03	.07	-.06	.07	-.01	.02	.00	-.06	.03	-.15	.13	.14	.00
.01	.02	.12	-.09	.05	-.04	.05	.05	.08	.11	.05	-.03	.13	.03	.14	.01	.11	.01	-.05	.17	-.16	.10	-.15	-.03
-.02	.34	.01	.10	.07	.02	-.13	.40	.27	.34	.01	-.03	.16	.40	.25	.11	.36	.00	.04	.62	.00	-.24	.00	-.12
.02	.14	.09	.02	.06	-.02	-.03	.23	.18	.22	.00	.02	.08	.31	.16	.02	.20	-.04	.04	.62	-.16	-.18	-.18	-.18
.01	-.15	-.02	-.05	-.02	-.02	.03	-.09	-.06	-.01	.02	.02	.03	.16	-.04	-.01	.04	-.15	-.06	.13	-.11	.09	-.10	.01
.02	.08	.11	.00	.07	-.03	-.05	.20	.20	.22	.04	.01	.11	.31	.16	.01	.20	-.07	-.01	.56	-.21	-.10	-.18	-.16
.19	-.04	.02	-.04	-.03	.00	.05	-.01	.01	.02	-.02	.15	.01	-.04	.00	-.01	-.04	-.03	-.02	-.09	.02	.07	.07	.07
-.01	.07	-.08	.05	-.11	.08	-.03	.00	-.06	.05	.05	.02	.03	.06	.05	.04	.08	-.01	-.01	-.04	.10	-.04	.07	.04
.43	.06	.00	-.04	-.01	-.01	.03	.05	.01	.05	.00	.16	.06	.00	.04	.00	.05	-.04	-.03	-.06	.03	.13	.02	.05
	.05	-.01	-.01	.01	.00	.01	.04	.02	.05	.01	.14	.03	.02	.03	.02	.04	-.09	-.02	.00	.02	.09	.04	.04
.05		-.18	.05	.05	.03	.03	.50	.24	.27	.02	.01	.13	.21	.24	.11	.33	.04	.09	.09	.19	-.06	.21	.05
-.01	-.18		-.01	.01	-.02	-.30	-.12	-.03	-.06	.00	-.07	-.02	-.05	-.01	-.02	-.05	-.03	.03	.05	-.16	-.04	-.13	-.09
-.01	.05	-.01		-.02	.06	-.36	.08	.03	.05	.00	.03	.01	.06	.05	.01	.08	.04	.00	.06	.06	-.06	.05	-.01
.01	.05	.01	-.02		.00	-.11	.10	.08	.06	-.01	.03	.04	.02	.02	.05	.04	.02	.01	.06	-.06	.00	-.01	-.01
.00	.03	-.02	.06	.00		-.08	-.01	.01	.04	.00	.01	.01	.02	-.01	-.01	.01	.00	.00	-.01	.04	-.05	.03	.01
.01	.03	-.30	-.36	-.11	-.08		.00	-.03	-.01	.06	.02	.01	-.03	-.05	-.01	-.04	.03	.00	-.11	.05	.07	.05	.07
.04	.50	-.12	.08	.10	-.01	.00		.47	.34	.03	.13	.13	.26	.21	.09	.31	.00	.05	.20	.10	-.06	.13	.03
.02	.24	-.03	.03	.08	.01	-.03	.47		.22	.02	.12	.12	.16	.03	.07	.15	-.01	.03	.16	.02	-.01	.04	.02
.05	.27	-.06	.05	.06	.04	-.01	.34	.22		.04	.18	.11	.29	.20	.06	.30	-.01	.00	.24	.03	-.02	.06	.01
.01	.02	.00	.00	-.01	.00	.06	.03	.02	.04		.03	.02	.03	.07	.03	.06	.00	-.01	-.01	.03	.00	.05	.04
.14	.01	-.07	.03	.03	.01	.02	.13	.12	.18	.03		.04	.09	.04	.07	.08	.01	-.02	.02	.06	.07	.09	.07
.03	.13	-.02	.01	.04	.01	.01	.13	.12	.11	.02	.04		.17	.17	.12	.48	.00	.00	.11	.01	.07	.05	.06
.02	.21	-.05	.06	.02	.02	-.03	.26	.16	.29	.03	.09	.17		.22	.12	.59	-.07	.04	.40	.04	-.03	.06	.02
.03	.24	-.01	.05	.02	-.01	-.05	.21	.03	.20	.07	.04	.17	.22		.08	.60	-.02	.02	.16	.03	.00	.06	.02
.02	.11	-.02	.01	.05	-.01	-.01	.09	.07	.06	.03	.07	.12	.12	.08		.33	-.01	.03	.05	.09	.02	.12	.08
.04	.33	-.05	.08	.04	.01	-.04	.31	.15	.30	.06	.08	.48	.59	.60	.33		-.04	.02	.27	.09	.03	.14	.08
-.09	.04	-.03	.04	.02	.00	.03	.00	-.01	-.01	.00	.01	.00	-.07	-.02	-.01	-.04		.03	-.06	.07	-.08	.04	-.03
-.02	.09	.03	.00	.01	.00	.00	.05	.03	.00	-.01	-.02	.00	.04	.02	.03	.02	.03		.01	-.05	-.01	-.02	-.03
.00	.09	.05	.06	.06	-.01	-.11	.20	.16	.24	-.01	.02	.11	.40	.16	.05	.27	-.06	.01		-.11	-.16	-.11	-.15
.02	.19	-.16	.06	-.06	.04	.05	.10	.02	.03	.03	.06	.01	.04	.03	.09	.09	.07	-.05	-.11		.04	.46	.26
.09	-.06	-.04	-.06	.00	-.05	.07	-.08	-.01	-.02	.00	.07	.07	-.03	.00	.02	.03	-.08	-.01	-.16	.04		.02	.24
.04	.21	-.13	.05	-.01	.03	.05	.13	.04	.06	.05	.09	.05	.06	.06	.12	.14	.04	-.02	-.11	.46	.02		.38
.04	.05	-.09	-.01	-.01	.01	.07	.03	.02	.01	.04	.07	.06	.02	.02	.08	.08	-.03	-.03	-.15	.26	.24	.38	
.02	.16	-.13	.02	-.03	-.03	.07	.10	.06	.07	.03	.07	.08	.10	.06	.13	.15	.01	.01	-.03	.34	.12	.32	.23
.07	-.07	-.02	-.04	.00	-.02	.05	-.08	-.06	-.04	-.02	.08	.04	-.02	-.01	.02	.02	-.02	-.04	-.16	.07	.32	.03	.17
.01	.04	-.04	-.01	.01	.05	.08	.00	-.01	-.06	-.04	.04	.04	-.03	-.02	.01	.00	.06	-.03	-.15	.11	.12	.11	.15
.04	.06	-.05	.03	-.02	.00	.01	.02	.00	.00	.05	.05	.03	.02	.02	.04	.06	.00	.05	-.09	.15	-.02	.19	.12
.03	-.02	-.03	.04	.02	.02	.02	.02	.01	.03	.01	.06	.01	.06	.02	.02	.02	.05	.00	.04	-.02	.06	.01	.01
.04	-.10	-.03	-.05	.00	.00	.02	-.05	-.02	-.01	-.02	.06	.03	.02	-.02	.03	.02	-.04	.02	-.06	.00	.12	-.01	.14
.04	.15	-.10	.02	-.02	.01	.04	.09	.04	.08	.02	.11	.06	.08	.08	.18	.15	.09	-.04	-.07	.33	.06	.31	.23
.07	.16	-.07	.01	.03	.04	.08	.15	.10	.05	.01	.17	.06	.07	.04	.07	.08	.06	-.04	-.01	.13	-.01	.16	.09
.00	.08	-.10	.05	-.05	.02	.07	.03	.00	.01	.02	.00	.01	.10	.00	.06	.08	-.02	-.13	-.06	.17	.03	.15	.13
-.01	.07	-.13	.05	.02	.04	.05	.02	.00	-.02	.00	.05	.01	.00	.02	.06	.05	.09	.00	-.07	.21	.03	.20	.14
-.01	.16	-.11	.03	-.02	.04	.10	.08	.03	.03	.00	.06	.02	.05	.07	.08	.11	.07	.02	-.05	.27	-.02	.24	.14
.00	.39	-.17	.08	-.02	.06	.10	.28	.13	.17	.03	.08	.12	.21	.15	.13	.26	.12	-.02	.15	.29	-.11	.28	.09
.05	.14	-.06	-.01	-.02	.00	.05	.08	.03	.07	-.02	.04	.02	.06	.05	.05	.08	-.04	.02	-.01	.06	.04	.08	.07
.03	.29	-.10	.02	-.02	.02	.04	.16	.07	.08	-.03	.05	.04	.09	.07	.10	.13	.03	.02	.01	.17	-.02	.20	.08
-.02	-.04	.04	-.01	.01	.00	-.02	-.01	.00	.02	.02	-.03	.00	.03	.03	-.03	.01	-.12	.09	.05	-.09	.00	-.05	-.02
.05	.16	-.12	.02	-.01	.02	.07	.13	.02	.02	-.03	.08	.03	-.04	-.01	.06	.03	.04	-.07	-.13	.16	.04	.16	.12
.03	.14	-.12	.01	-.04	.03	.11	.05	-.02	.00	-.03	.07	.01	-.03	-.02	.07	.02	.06	-.08	-.15	.17	.05	.19	.12
.02	.18	-.13	-.02	-.05	.01	.11	.04	-.02	.00	-.01	.08	.02	-.04	-.01	.09	.03	.07	-.01	-.17	.17	.06	.19	.14
.06	.86	-.21	.03	.04	.02	.09	.47	.24	.25	.03	.02	.14	.19	.23	.12	.33	.04	.07	.06	.21	-.03	.23	.08
-.01	.01	-.09	-.08	-.07	-.03	.25	-.10	-.10	-.11	.03	-.01	-.05	-.17	-.12	-.03	-.14	.01	-.02	-.32	.08	.13	.12	.12
.05	.26	-.06	.04	.01	.03	.05	.21	.14	.09	.01	.12	-.07	.11	.09	.06	.14	-.03	.10	.07	.11	-.02	.12	.04
.07	.09	.00	.08	.03	.02	-.08	.16	.09	.08	.00	.08	.01	-.11	.09	.01	.08	-.08	.05	.13	.01	-.06	.02	-.03
.01	.10	-.12	-.13	-.03	-.04	.26	.01	-.02	.01	.01	.07	.03	-.04	-.01	.04	.03	.02	-.01	-.12	.16	.08	.17	.15
.01	.06	-.14	.06	-.04	.03	-.02	.02	.03	.04	.00	.05	.00	.06	-.03	.09	.04	.02	-.04	-.08	.19	.01	.17	.08
.02	.03	-.12	.11	-.05	.03	-.02	-.02	-.01	-.01	.00	.03	-.04	.04	-.06	.08	.00	.01	-.03	-.06	.19	-.04	.16	.07
.00	.14	-.12	.02	-.01	.03	.09	.04	-.01	.02	.01	.07	-.01	.01	-.02	.06	.02	.04	-.06	-.12	.22	.02	.24	.12
.01	.18	-.14	.03	-.01	.02	.10	.07	.00	-.01	.01	.09	.00	.01	-.02	.08	.03	.02	-.06	-.14	.26	.02	.27	.13
.02	.18	-.16	.12	.05	.02	-.08	.23	.12	.20	-.01	.09	.08	.21	.12	.05	.21	-.01	.04	.13	.08	-.04	.11	.01
.04	.01	-.07	.03	.04	.00	.02	.02	.00	-.04	.00	.03	.03	.00	.02	-.01	.01	-.01	.01	.00	-.02	.02	-.02	.02
-.05	.00	-.06	.01	-.01	.03	.02	-.08	-.08	-.04	-.03	-.05	-.07	-.07	-.06	.00	-.07	.08	.01	-.06	.12	-.04	.08	.02
-.01	-.13	.18	-.04	-.01	-.03	.05	-.11	-.03	-.10	.02	-.07	-.02	-.10	-.06	-.04	-.11	-.02	-.03	-.04	-.09	.04	-.10	-.01
.00	-.09	-.07	-.01	-.03	.00	.04	-.12	-.06	-.03	.01	.05	.01	-.09	-.04	.03	-.02	-.01	-.03	-.19	.07	.15	.05	.16
.05	.03	-.08	.02	-.02	.01	.00	.00	.00	.02	.02	.07	.05	-.05	-.10	.04	-.03	.11	-.08	-.16	.12	.06	.12	.10
.04	.07	-.06	.02	-.01	-.01	.04	.11	.06	.10	.01	.06	.06	.02	.04	.02	.03	.04	.01	.00	.06	.04	.06	.04
.05	.29	.02	.12	.07	-.03	-.12	.39	.28	.36	-.01	.10	.17	.32	.27	.10	.34	.01	-.02	.52	-.05	-.10	-.04	-.09
.07	.12	.10	.02	.04	-.02	-.05	.24	.23	.19	-.01	.05	.13	.20	.16	.06	.20	-.05	-.04	.40	-.14	.01	-.10	-.07
.03	.21	.02	.09	.02	.03	-.05	.19	.10	.10	.01	.01	.02	.12	.07	.01	.08	.05	.02	.11	.09	-.10	.07	-.02
.01	-.08	-.14	-.16	.07	-.08	.36	-.10	-.03	-.11	.00	-.01	.02	-.13	-.11	-.03	-.10	.09	-.03	-.16	.02	.11	.05	.06
.02	-.12	.00	-.03	.01	-.06	.01	.01	.03	-.09	-.01	.00	.04	-.02	-.06	.02	-.04	.01	-.05	-.02	.01	.03	.00	.07
-.01	.06	-.01	.01	-.02	.00	-.05	.03	-.02	.04	.01	.06	.04	.02	.05	.06	.08	.03	-.05	-.03	.08	.03	.08	.06

```
    35    36    37    38    39    40    41    42    43    44    45    46    47    48    49    50    51    52    53    54    55    56    57    58
  -.10   .09  -.03  -.06  -.16  -.04  -.10  -.10  -.20  -.19  -.08  -.11  -.01  -.09   .05  -.12  -.11  -.08  -.03   .00  -.20  -.15   .02  -.32
  -.06   .10   .02  -.04  -.09  -.02  -.04  -.05  -.13  -.14  -.04  -.09   .01  -.06   .03  -.08  -.06  -.04  -.02   .01  -.13  -.13   .04  -.25
  -.05   .04  -.01  -.09  -.08  -.01  -.06  -.03  -.16  -.12  -.04  -.02  -.01  -.04   .02  -.09  -.10  -.09   .03  -.07  -.12  -.10   .00   .23
   .00  -.21  -.17  -.06   .07  -.08  -.01   .03  -.73  -.06   .03   .27   .06   .11   .05  -.10  -.14  -.16   .29  -.45   .14   .18  -.14  -.04
  -.09  -.16  -.11  -.13   .02  -.07  -.11   .00  -.12  -.10  -.04   .13   .03   .00   .05  -.13  -.16  -.15   .10  -.32   .08  -.13  -.13  -.15
  -.02   .05  -.01  -.04  -.01   .03  -.07  -.02   .05   .00  -.01  -.07   .04  -.06   .20  -.03  -.04  -.04  -.14   .03  -.03   .00   .00  -.03
  -.08  -.12  -.11  -.12  -.02  -.07  -.13  -.04  -.12  -.15  -.06   .05   .03  -.04   .08  -.18  -.19  -.17   .05  -.27   .02   .09  -.11  -.19
   .03   .05   .10   .02   .03   .04   .10   .06   .00   .00   .00   .00   .11   .05   .02   .07   .10   .08  -.01   .01  -.04  -.02   .06   .01
   .02  -.01  -.06   .04   .00   .01   .04   .02   .03   .03   .03   .06   .00   .02   .02  -.01  -.03  -.01   .05  -.07  -.01   .02  -.02   .09
   .05   .15   .02   .06   .00   .03   .05   .10  -.01   .00   .01  -.01   .08   .05   .00   .06   .07   .06   .07   .03   .03   .04   .05   .03
   .02   .07   .01   .04   .03   .04   .04   .07   .00  -.01  -.01   .00   .05   .03  -.02   .05   .03   .02   .06  -.01   .05   .07   .01   .01
   .16  -.07   .04   .06  -.02  -.10   .15   .16   .08   .07   .16   .39   .14   .29  -.04   .16   .14   .18   .86   .01   .26   .09   .10   .06
  -.13  -.02  -.04  -.05  -.03  -.03  -.10  -.07  -.10  -.13  -.11  -.17  -.06  -.10   .04  -.12  -.12  -.13  -.21  -.09  -.06   .00  -.12  -.14
   .02  -.04  -.01   .03   .04  -.05   .02   .01   .05   .05   .03   .08  -.01   .02  -.01   .02   .01  -.02   .03  -.08   .04   .08  -.13   .06
  -.03   .00   .01  -.02   .02   .00  -.02   .03  -.05   .02  -.02  -.02  -.02  -.02   .01  -.01  -.04  -.05   .04  -.07   .01   .03  -.03  -.04
  -.03  -.02   .05   .00   .02   .00   .01   .04   .02   .04   .04   .06   .00   .02   .00   .02   .03   .01   .02  -.03   .03   .02  -.04   .03
   .07   .05   .08   .01   .02   .02   .04   .08   .07   .05   .10   .10   .05   .04  -.02   .07   .11   .11   .09   .25   .05  -.08   .26  -.02
   .10  -.08   .00   .02   .02  -.05   .09   .15   .03   .02   .08   .28   .08   .16  -.01   .13   .05   .04   .47  -.10   .21   .16   .01   .02
   .06  -.06  -.01   .00   .01  -.02   .04   .10   .00   .00   .03   .13   .03   .07   .00   .02  -.02  -.02   .24  -.10   .14   .09  -.02   .03
   .07  -.04  -.06   .00   .03  -.01   .08   .05   .01  -.02   .03   .17   .07   .08   .02   .02   .00   .00   .25  -.11   .09   .08   .01   .04
   .02  -.02  -.04   .05   .01  -.02   .02   .01   .02   .00   .00   .03  -.02  -.03   .02  -.03  -.03  -.01   .03   .03   .01   .00   .01   .00
   .07   .08   .04   .05   .06   .06   .11   .17   .00   .05   .06   .08   .04   .05  -.03   .08   .07   .08   .02  -.01   .12   .08   .07   .05
   .08   .04   .04   .03   .01   .03   .06   .06   .01   .01   .02   .12   .02   .04   .00   .03   .01   .02   .14  -.05   .07   .01   .03   .00
   .10  -.02  -.03   .02   .06   .02   .08   .07   .10   .00   .05   .21   .06   .09   .03  -.04  -.03  -.04   .19  -.17   .11   .11  -.04   .06
   .06  -.01  -.02   .02   .02  -.02   .08   .04   .00   .02   .07   .15   .05   .07   .03  -.01  -.02  -.01   .23  -.12   .09   .09  -.01  -.03
   .13   .02   .01   .04  -.02   .03   .18   .07   .06   .06   .08   .13   .05   .10  -.03   .06   .07   .09   .12  -.03   .06   .01   .04   .09
   .15   .02   .00   .06   .02   .02   .15   .08   .08   .05   .11   .26   .08   .13   .01   .03   .02   .03   .33  -.14   .14   .08   .03   .04
   .01  -.02   .06   .00   .05  -.04   .09   .06  -.02   .09   .07   .12  -.04   .03  -.12   .04   .06   .07   .04   .01  -.03  -.08   .02   .02
   .01  -.04  -.03   .05   .00   .02  -.04  -.04  -.13   .00   .02  -.02   .02   .02   .09  -.07  -.08  -.01   .07  -.02   .10   .05  -.01  -.04
  -.03  -.16  -.15  -.09   .04  -.06  -.07  -.01  -.06  -.07  -.05   .15  -.01   .01   .05  -.13  -.15  -.17   .06  -.32   .07   .13  -.12  -.08
   .34   .07   .11   .15  -.02   .00   .33   .13   .17   .21   .27   .29   .06   .17  -.09   .16   .17   .17   .21   .08   .11   .01   .16   .19
   .12   .32   .12  -.02   .06   .12   .06  -.01   .03   .03  -.02  -.11   .04  -.02   .00   .04   .05   .06  -.03   .13  -.02  -.06   .08   .01
   .32   .03   .11   .19   .01  -.01   .31   .16   .15   .20   .24   .28   .08   .20  -.05   .16   .19   .19   .23   .12   .12   .02   .17   .17
   .23   .17   .15   .12   .01   .14   .23   .09   .13   .14   .14   .09   .07   .08  -.02   .12   .12   .14   .08   .12   .04  -.03   .15   .08
         .08   .10   .12   .00   .03   .26   .11   .11   .14   .24   .24   .08   .15   .00   .13   .11   .13   .19   .13   .09  -.02   .17   .12
   .08         .21  -.03   .03   .14   .10   .07   .01   .07   .08  -.01   .04  -.01   .00   .07   .07   .06  -.05   .13  -.03  -.09   .13   .00
   .10   .21        -.04   .09   .08   .12   .11   .05   .22   .14   .10   .07   .06   .00   .07   .09   .09   .03   .11   .05   .00   .06   .01
   .12  -.03  -.04        -.05   .01   .13   .08   .09   .07   .10   .08   .03   .07   .02   .05   .07   .09   .07   .10   .03   .01   .06   .06
   .00   .03   .09  -.05         .10   .04   .11   .03   .11   .06   .06   .03   .00   .06  -.02  -.01  -.04  -.03  -.07   .10   .10  -.02   .00
   .03   .14   .08   .01   .10         .22   .07   .07   .06   .07  -.03   .06   .03   .01   .05   .07   .07  -.09   .02  -.04  -.04   .06   .04
   .26   .10   .12   .13   .04   .22         .23   .16   .21   .31   .28   .09   .20  -.07   .16   .22   .18   .18   .07   .05  -.04   .16   .15
   .11   .07   .11   .08   .11   .07   .23         .12   .34   .29   .27   .03   .09  -.04   .09   .10   .12   .17   .08   .24   .08   .05   .14
   .11   .01   .05   .09   .03   .07   .16   .12         .14   .18   .16   .03   .08  -.06   .09   .12   .07   .09   .14   .05   .00   .08   .15
   .14   .07   .22   .07   .11   .06   .21   .34   .14         .46   .32   .04   .10  -.04   .11   .14   .13   .07   .02   .12   .01   .05   .12
   .24   .08   .14   .10   .06   .07   .31   .29   .18   .46         .39   .07   .14  -.02   .13   .16   .14   .17   .08   .12   .02   .19   .07
   .24  -.01   .10   .08   .06  -.03   .28   .27   .16   .32   .39         .09   .21  -.08   .15   .16   .15   .38   .00   .18   .03   .16   .13
   .08   .04   .07   .03   .03   .06   .09   .03   .03   .04   .07   .09         .48   .44   .26   .36   .34   .16  -.01  -.01  -.01   .04   .05
   .15  -.01   .06   .07   .00   .03   .20   .09   .08   .10   .14   .21   .48         .18   .35   .54   .48   .31   .00   .04  -.04   .11   .10
   .00   .00   .00   .02   .06   .01  -.07  -.04   .06   .04  -.02  -.08   .44   .18        -.08  -.07  -.10  -.07  -.05  -.05   .01  -.04  -.07
   .13   .07   .07   .05  -.02   .05   .16   .09   .09   .11   .13   .15   .26   .35  -.08         .55   .39   .19   .09  -.02  -.08   .12   .13
   .11   .07   .09   .07  -.01   .02   .22   .10   .12   .14   .16   .16   .36   .54  -.07   .55         .58   .19   .13   .00  -.10   .16   .13
   .13   .06   .09   .09  -.04   .07   .18   .12   .07   .13   .14   .15   .34   .48  -.10   .39   .58         .23   .13   .02  -.08   .16   .12
   .19  -.05   .03   .07  -.03  -.09   .18   .17   .09   .07   .17   .38   .16   .31  -.07   .19   .19   .23         .04   .26   .08   .13   .07
   .13   .13   .11   .10  -.07   .02   .07   .08   .14   .02   .08   .00  -.01   .00  -.05   .09   .13   .13   .04        -.02  -.10   .30   .06
   .09  -.03   .05   .03   .10  -.04   .05   .24   .05   .12   .12   .18  -.01   .04  -.05  -.02   .00   .02   .26  -.02         .36   .04   .00
  -.02  -.09   .00   .01   .10  -.04  -.04   .08   .00   .01   .02   .03  -.01  -.04   .01  -.08  -.10  -.08   .08  -.10   .36        -.10  -.01
   .17   .13   .06   .06  -.02   .06   .16   .05   .08   .05   .19   .16   .04   .11  -.04   .12   .16   .16   .13   .30   .04  -.10         .04
   .12   .00   .01   .06   .00   .04   .15   .14   .15   .12   .07   .13   .05   .10  -.07   .13   .13   .12   .07   .06   .00  -.01   .04
   .09  -.02   .00   .03   .02   .01   .16   .13   .14   .14   .08   .10   .04   .07  -.05   .10   .11   .10   .03   .03   .02   .02   .01   .48
   .20   .03   .10   .09   .04   .01   .22   .18   .10   .17   .18   .20   .07   .16  -.05   .14   .19   .17   .15   .15   .09   .00   .15   .19
   .20   .03   .11   .10   .06  -.02   .21   .23   .14   .20   .19   .23   .08   .19  -.04   .19   .23   .22   .21   .16   .15   .04   .17   .20
   .03  -.05  -.05   .02   .00   .00   .02   .05   .02   .03   .07   .13   .03   .11  -.02   .06   .05   .03   .18  -.08   .08   .11  -.04   .06
   .02   .04   .01   .01  -.01   .00  -.02  -.01  -.02  -.02  -.01  -.03   .00   .01  -.02  -.04  -.02   .00   .00   .01   .00  -.01   .02  -.03
   .05   .02   .00   .02  -.03  -.03   .04   .03   .02   .07   .07   .06  -.02   .03  -.02   .02   .02   .03  -.01   .06  -.02  -.06   .05   .01
  -.06   .00   .05  -.03   .03  -.01  -.03  -.02   .00  -.03  -.07  -.09  -.02  -.08  -.03  -.02  -.03  -.03  -.13   .01  -.02  -.04   .02  -.05
   .08   .12   .04   .09  -.05   .07   .09  -.02   .07   .05   .03  -.01   .04   .05   .01   .15   .12   .11  -.07   .14  -.07  -.11   .07   .06
   .11   .04   .06  -.02  -.04   .05   .17   .01   .07   .12   .07   .07   .11   .13  -.08   .23   .21   .20   .10   .12  -.02  -.08   .09   .12
   .02   .03   .00   .02  -.03   .04   .09   .04   .01   .04  -.01   .09   .04   .07  -.08   .10   .10   .09   .08   .01   .03   .00  -.01   .06
  -.02  -.10  -.11  -.03   .01  -.08   .01   .07  -.07  -.04   .02   .22   .06   .07   .01  -.07  -.11  -.09   .27  -.33   .16   .17  -.15  -.10
  -.04  -.05  -.09  -.06  -.03  -.02  -.05   .01  -.09  -.11  -.02   .08   .06   .03   .00  -.04  -.06  -.08   .11  -.22   .03   .05  -.07  -.13
   .02  -.08   .04  -.01   .06  -.12  -.01   .09   .01   .05   .03   .14   .01   .07  -.03   .01  -.01   .00   .19  -.12   .23   .17  -.05  -.01
   .10   .09   .06   .03   .00   .05   .11   .06   .05   .09   .10   .07   .04   .10  -.03   .12   .20   .18  -.02   .25  -.04  -.19   .34   .06
   .00   .02   .00  -.03   .01   .05   .03  -.04   .01  -.01  -.04  -.02   .06   .06   .00   .03   .12   .07  -.07   .02  -.05  -.06   .11   .07
   .08   .06   .01   .06  -.05   .06   .09  -.01   .02  -.01   .09  -.06   .00   .05   .00   .04   .02   .01   .05   .05  -.01  -.05   .39   .01
```

II cont.

55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	Mean	S.D.	
-.20	-.15	.02	-.32	-.35	-.16	-.23	-.13	.06	-.01	.09	-.01	-.08	-.03	.19	.37	-.11	.06	.00	.04	1.73	.44	1
-.13	-.13	.04	-.25	-.25	-.13	-.17	-.10	.04	.00	.07	.01	-.08	-.04	.15	.25	-.08	.04	-.04	.05	4.42	.94	2
-.12	-.10	.00	.23	-.24	-.12	-.18	-.04	.05	-.04	.05	-.04	-.09	.00	.27	.33	-.02	.02	-.02	.06	4.92	1.21	3
.14	.18	-.14	-.04	-.02	-.10	-.11	.21	-.04	-.05	-.10	-.29	-.11	.02	.63	.40	.20	-.26	-.06	.01	3.32	1.77	4
.08	-.13	-.13	-.15	-.14	-.16	-.17	.08	.01	-.06	.00	-.35	-.18	.01	.56	.44	.14	-.16	-.06	-.04	1.47	.50	5
-.03	.00	.00	-.03	-.02	-.02	-.02	-.02	.02	-.04	.02	.26	-.01	-.01	-.01	.06	-.08	.01	.06	.01	3.64	1.40	6
.02	.09	-.11	-.19	-.18	-.14	-.19	.04	.02	-.07	.01	-.28	-.19	-.04	.52	.50	.08	-.14	-.03	-.01	2.23	1.62	7
-.04	-.02	.06	.01	.01	.02	-.01	-.04	.01	-.06	.05	-.02	.07	.01	-.07	-.03	-.04	.05	.03	.01	3.53	.69	8
-.01	.02	-.02	.09	.07	.03	.04	.11	-.03	.03	-.10	.04	-.06	-.03	-.01	-.14	.01	-.13	-.09	.09	1.54	.50	9
.03	.04	.05	.03	.02	.02	.02	.02	.03	-.04	-.01	.02	.06	.05	.02	.04	-.03	.03	.04	.01	4.40	.72	10
.05	.07	.01	.01	.02	.00	.01	.02	.04	-.05	-.01	.00	.05	.04	.05	.07	.03	.01	.02	-.01	3.40	.86	11
.26	.09	.10	.06	.03	.14	.18	.18	.01	.00	-.13	-.09	.03	.07	.29	.12	.21	-.08	-.12	.06	2.27	1.61	12
-.06	.00	-.12	-.14	-.12	-.12	-.14	-.16	-.07	-.06	.18	-.07	-.08	-.06	.02	.10	.02	-.14	.00	-.01	1.38	.49	13
.04	.08	-.13	.06	.11	.02	.03	.12	.03	.01	-.04	-.01	.02	.02	.12	.02	.09	-.16	-.03	.01	1.42	.49	14
.01	.03	-.03	-.04	-.05	-.01	-.01	.05	.04	-.01	-.01	-.03	-.02	-.01	.07	.04	.02	.07	.01	-.02	1.05	.23	15
.03	.02	-.04	.03	.03	.03	.02	.02	.00	.03	-.03	.00	.01	-.01	-.03	-.02	.03	-.08	-.06	.00	1.01	.14	16
.05	-.08	.26	-.02	-.02	.09	.10	-.08	.02	.02	.05	.04	.00	.04	-.12	-.05	-.05	.36	.01	-.05	1.47	.50	17
.21	.16	.01	.02	-.02	.04	.07	.23	.02	-.08	-.11	-.12	.00	.11	.39	.24	.19	-.10	.01	.03	3.45	1.23	18
.14	.09	-.02	.03	-.01	-.01	.00	.12	.00	-.08	-.03	-.06	.00	.06	.28	.23	.10	-.03	.03	-.02	2.43	.60	19
.09	.08	.01	.04	-.01	.02	-.01	.20	-.04	-.04	-.10	-.03	.02	.10	.36	.19	.10	-.11	-.09	.04	1.59	1.02	20
.01	.00	.01	.00	.00	.01	.01	-.01	.00	-.03	.02	.01	.02	.01	-.01	-.01	.01	.00	-.01	.01	1.06	.25	21
.12	.08	.07	.05	.03	.07	.09	.09	.03	-.05	-.07	.05	.07	.06	.10	.05	.01	-.01	.00	.06	3.05	.71	22
.07	.01	.03	.00	-.04	-.01	.00	.08	.03	-.07	-.02	.01	.05	.06	.17	.13	.02	.02	.04	.04	1.17	.38	23
.11	.11	-.04	.06	.04	.01	.01	.21	.00	-.07	-.10	-.09	-.05	.02	.32	.20	.12	-.13	-.02	.02	1.24	.43	24
.09	.09	-.01	-.03	-.06	-.02	-.02	.12	.02	-.06	-.06	-.04	-.10	.04	.27	.16	.07	-.11	-.06	.05	1.36	.48	25
.06	.01	.04	.09	.08	.06	.08	.05	-.01	.00	-.04	.03	.04	.02	.10	.06	.03	-.03	.02	.06	1.08	.28	26
.14	.08	.03	.04	-.00	.02	.03	.21	.01	-.07	-.11	-.02	-.03	.03	.34	.20	.08	-.10	-.04	.08	2.14	1.46	27
-.03	-.08	.02	.02	.01	.04	.02	-.01	-.01	.08	-.02	-.01	.11	.04	.01	-.05	.05	.09	.01	.03	1.41	.49	28
.10	.05	-.01	-.04	-.03	-.06	-.06	.04	.01	.01	-.03	-.03	-.08	.01	-.02	-.04	.02	-.03	-.05	-.05	1.15	.37	29
.07	.13	-.12	-.08	-.06	-.12	-.14	.13	.00	-.06	-.04	-.19	-.16	.00	.52	.40	.11	-.16	-.02	-.03	1.33	.47	30
.11	.01	.16	.19	.19	.22	.26	.08	-.02	.12	-.09	.07	.12	.06	-.05	-.14	.09	.02	.01	.08	1.42	.65	31
-.02	-.06	.08	.01	-.04	.02	.02	-.04	.02	-.04	.04	.15	.06	.04	-.10	.01	-.10	.11	.03	.03	2.26	.81	32
.12	.02	.17	.17	.16	.24	.27	.11	-.02	.08	-.10	.05	.12	.06	-.04	-.10	.07	.05	.00	.08	1.37	.64	33
.04	-.03	.15	.08	.07	.12	.13	.01	.02	.02	-.01	.16	.10	.04	-.09	-.07	-.02	.06	.07	.06	1.40	.63	34
.09	-.02	.17	.12	.09	.20	.20	.03	.02	.05	-.06	.08	.11	.02	-.02	-.04	.02	.10	.00	.08	1.42	.68	35
-.03	-.09	.13	.00	-.02	.03	.03	-.05	.04	.02	.00	.12	.04	.03	-.10	-.05	-.08	.09	.02	.06	2.26	.91	36
.05	.00	.06	.01	.00	.10	.11	-.05	.01	.00	.05	.04	.06	.00	-.11	-.09	.04	.06	.00	.01	2.02	.79	37
.03	.01	.06	.06	.03	.09	.10	.02	.01	.02	-.03	.09	-.02	.02	-.03	-.06	-.01	.03	-.03	.06	3.34	1.14	38
.10	.10	-.02	.00	.02	.04	.06	.00	-.01	-.03	.03	-.05	-.04	-.03	.01	-.03	.06	.00	.01	-.05	1.45	.50	39
-.04	-.04	.06	.04	.01	.01	-.02	.00	.00	-.03	-.01	.07	.05	.04	-.08	-.02	-.12	.05	.05	.06	1.99	.89	40
.05	-.04	.16	.15	.16	.22	.21	.02	-.02	.05	-.03	.09	.17	.09	.01	-.05	-.01	.11	.03	.09	1.74	1.14	41
.24	.08	.05	.14	.13	.18	.23	.05	-.01	.03	-.02	-.02	.01	.04	.07	.01	.09	.06	-.04	-.01	2.47	.72	42
.05	.00	.08	.15	.14	.10	.14	.02	-.02	.02	.00	.07	.07	.01	-.07	-.09	.01	.05	.01	.02	1.71	.45	43
.12	.01	.05	.12	.14	.17	.20	.03	-.02	.07	-.03	.05	.12	.04	-.04	-.11	.05	.09	-.01	-.01	1.73	1.20	44
.12	.02	.19	.07	.08	.18	.19	.07	-.01	.07	-.07	.03	.07	-.01	.02	-.02	.03	.10	-.04	.09	2.32	1.16	45
.18	.03	.16	.13	.10	.20	.23	.13	-.03	.06	-.09	-.01	.07	.09	.22	.08	.14	.07	-.02	.06	2.50	1.50	46
-.01	-.01	.04	.05	.04	.07	.08	.03	.00	-.02	-.02	.04	.11	.04	.06	.06	.01	.04	.06	.00	3.47	1.54	47
.04	-.04	.11	.10	.07	.16	.19	.11	.01	.03	-.08	.05	.13	.07	.07	.03	.07	.10	.06	.05	1.65	1.07	48
-.05	.01	-.04	-.07	-.05	-.05	-.04	-.02	-.02	-.02	-.03	.01	-.08	-.08	.01	.00	-.03	-.03	.00	.00	3.02	1.56	49
-.02	-.08	.12	.13	.10	.14	.19	.06	-.04	.02	-.02	.15	.23	.10	-.07	-.04	.01	.12	.03	.04	3.22	1.15	50
.00	-.10	.16	.13	.11	.19	.23	.05	-.02	.02	-.03	.12	.21	.10	-.11	-.06	-.01	.20	.12	.02	3.03	2.39	51
.02	-.08	.16	.12	.10	.17	.22	.03	.00	.03	-.03	.11	.20	.09	-.09	-.08	.00	.18	.07	.01	2.74	1.84	52
.26	.08	.13	.07	.03	.15	.21	.18	.00	-.01	-.13	-.07	.10	.08	.27	.11	.19	-.02	-.07	.05	4.70	1.88	53
-.02	-.10	.30	.06	.03	.15	.16	-.08	.01	.06	.01	.14	.12	.01	-.33	-.22	-.12	.25	.02	.05	3.60	1.59	54
	.36	.04	.00	.02	.09	.15	.08	.00	-.02	-.02	-.07	-.02	.03	.16	.03	.23	-.04	-.05	-.01	3.02	.86	55
.36		-.10	-.01	.02	.00	.04	.11	-.01	-.06	-.04	-.11	-.08	.00	.17	.05	.17	-.19	-.06	-.05	2.06	.82	56
.04	-.10		.04	.01	.15	.17	-.04	.02	.05	.02	.07	.09	-.01	-.15	-.07	-.05	.34	.11	.39	1.86	1.19	57
.00	-.01	.04		.48	.19	.20	.06	-.03	.01	-.05	.06	.12	.06	-.10	-.13	-.01	.06	.07	.01	1.45	.50	58
.02	.02	.01	.48		.22	.22	.06	-.05	.04	-.05	.03	.12	.03	-.09	-.14	.02	.00	.06	.00	1.32	.47	59
.09	.00	.15	.19	.22		.76	.02	.02	.06	-.03	.09	.10	.06	-.10	.14	.02	.14	.05	.02	1.34	.64	60
.15	.04	.17	.20	.22	.76		.04	.01	.06	-.04	.08	.08	.05	-.13	-.16	.06	.15	.09	.03	1.43	.74	61
.08	.11	-.04	.06	.06	.02	.04		-.12	-.07	-.06	-.02	.09	.07	.14	.03	.08	-.12	-.03	.06	1.12	.32	62
.00	-.01	.02	-.03	-.05	.02	.01	-.12		-.09	-.33	.01	.01	-.01	.01	.04	.01	.04	.05	-.02	1.15	.35	63
-.02	-.06	.05	.01	.04	.06	.06	-.07	-.09		-.33	.03	.03	-.02	-.06	-.05	.02	.04	.00	.03	1.05	.23	64
-.02	-.04	.02	-.05	-.05	-.03	-.04	-.06	-.33	-.33		-.02	-.08	-.04	-.05	.01	-.05	.04	.00	-.04	1.76	.42	65
-.07	-.11	.07	.06	.03	.09	.08	-.02	.01	.03	-.02		.24	.16	-.17	-.15	-.09	.11	.03	.02	2.56	.73	66
-.02	-.08	.09	.12	.12	.10	.08	.09	.01	.03	-.08	.24		.55	-.05	.00	-.03	.08	.06	.03	3.92	2.18	67
.03	.00	-.01	.06	.03	.06	.05	.07	-.01	-.02	-.04	.16	.55		.13	.10	.01	.02	.03	.00	6.18	2.42	68
.16	.17	-.15	-.10	-.09	-.10	-.13	.14	.01	-.06	-.05	-.17	-.05	.13		.56	.16	-.24	-.07	.02	2.75	.99	69
.03	.05	-.07	-.13	-.14	.14	-.16	.03	.04	-.05	.01	-.15	.00	.10	.56		.05	-.07	-.01	.02	3.06	1.27	70
.23	.17	-.05	-.01	.02	.02	.06	.08	.01	.02	-.05	-.09	-.03	.01	.16	.05		-.09	.08	.00	51.49	19.71	71
-.04	-.19	.34	.06	.00	.14	.15	-.12	.04	.04	.04	.11	.08	.02	-.24	-.07	-.09		-.34	-.36	7.54	4.88	72
-.05	-.06	.11	.07	.06	.05	.09	-.03	.05	.00	.00	.03	.06	.03	-.07	-.01	.08	-.34		-.16	3.96	2.18	73
-.01	-.05	.39	.01	.00	.02	.03	.06	-.02	.03	-.04	.02	.03	.00	.02	.02	.00	-.36	-.16		.67	.87	74

II cont.

Intercorrelations of Psychological Tests, Counselor Ratings,

and Class Grades. Sample 3 - Spring, 1962 N = 179

	VARIABLE	71	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92
	71 Class Grade(s)		.39	.35	.44	.37	.39	.37	.43	.14	.13	-.03	.02	-.19	.14	-.14	.30	.14	-.12	.28
WESMAN IQ	75 Vocabulary	.39		.40	.91	.60	.60	.69	.72	.30	.36	.01	.10	-.21	.25	-.08	.65	.54	.41	.52
	76 Numbers	.35	.40		.74	.17	.26	.36	.31	.34	.37	.03	.09	-.26	.13	-.02	.36	.14	.13	.37
	77 Total	.44	.91	.74		.51	.55	.67	.67	.38	.43	.02	.12	-.27	.24	-.06	.65	.45	.36	.56
COOP. ENG. READING COMP	78 Vocabulary	.37	.60	.17	.51		.62	.61	.84	.14	.08	-.03	.02	-.16	.19	-.07	.70	.64	.48	.48
	79 Level of Comp.	.39	.60	.26	.55	.62		.77	.86	.19	.19	-.07	.02	-.16	.12	-.19	.56	.45	.32	.33
	80 Speed of Comp.	.37	.69	.36	.67	.61	.77		.92	.32	.25	-.05	.05	-.20	.15	-.09	.62	.51	.37	.48
	81 Total	.43	.72	.31	.67	.84	.86	.92		.27	.21	-.06	.04	-.21	.18	-.09	.71	.61	.44	.50
EMPLOYEE APT. SURV.	82 Visual Speed	.14	.3	.34	.38	.14	.19	.32	.27		.22	.06	.01	-.04	.07	.00	.25	.08	.25	.13
	83 Spatial Rel.	.13	[illegible]	.37	.43	.08	.19	.25	.21	.22		-.04	.15	-.21	.10	.05	.30	.02	.12	.15
COUNSELOR INTERVIEW FORM	84 Reas. for Attnd.	-.03	.01	.03	.02	-.03	-.07	-.05	-.06	.06	-.04		-.08	.20	.03	.02	-.03	.01	.06	-.09
	85 Stud. Apprsl. Instr.	.02	.10	.09	.12	.02	.02	.05	.04	.01	.15	-.08		-.16	.19	-.07	.02	.04	.06	.17
	86 Level of Motivation	-.19	-.21	-.26	-.27	-.16	-.16	-.20	-.21	-.04	-.21	.20	-.16		.14	.24	-.14	-.06	-.07	-.22
	87 Self Perception	.14	.25	.13	.24	.19	.12	.15	.18	.07	.10	.03	.19	.14		.04	.29	.19	.22	.18
	88 Attitude	-.14	-.08	-.02	-.06	-.07	-.09	-.09	-.09	.00	.05	.02	-.07	.24	.04		-.09	-.08	-.01	-.12
PROJECT TALENT	89 Vocabulary	.30	.65	.36	.65	.70	.56	.62	.71	.25	.30	-.03	.02	-.14	.29	-.09		.53	.42	.45
	90 Literature	.14	.54	.14	.45	.64	.45	.51	.61	.08	.02	.01	.04	-.06	.19	-.08	.53		.52	.50
	91 Music	-.12	.41	.13	.36	.48	.32	.37	.44	.25	.12	.06	.06	-.07	.22	-.01	.42	.52		.38
	92 Social Studies	.28	.52	.37	.56	.48	.33	.48	.50	.13	.15	-.09	.17	-.22	.18	-.12	.45	.50	.38	
	93 Math	.29	.47	.70	.66	.30	.31	.45	.42	.21	.37	.05	.11	-.21	.22	-.04	.49	.35	.26	.46
	94 Physical Science	.29	.40	.42	.48	.42	.31	.41	.44	.09	.31	.08	.12	-.23	.19	-.06	.47	.40	.24	.47
	95 Biol. Science	.14	.36	.11	.32	.35	.27	.35	.38	.03	.21	.04	.13	-.06	.23	-.08	.38	.45	.19	.29
	96 Aero + Space	.18	.33	.40	.42	.29	.29	.38	.36	.08	.45	-.01	.05	-.20	.12	-.01	.44	.26	.10	.38
	97 Elect. + Electron.	.17	.32	.39	.41	.26	.20	.26	.28	.07	.40	.02	.05	-.14	.13	.01	.42	.23	.12	.34
	98 Mechanics	.16	.29	.34	.36	.20	.18	.18	.22	.04	.42	-.03	.13	-.09	.17	.01	.47	.14	.13	.34
	99 Home Economics	.08	.29	-.08	.17	.41	.31	.23	.35	.13	.01	-.01	-.04	-.15	.02	-.01	.31	.42	.42	.09
	100 Constant	.18	.48	.42	.53	.42	.37	.45	.47	.32	.39	.02	.09	-.14	.16	-.05	.57	.32	.33	.52
	101 Total	.30	.65	.51	.70	.62	.50	.59	.65	.22	.41	.02	.12	-.23	.26	-.06	.74	.64	.50	.68
	102 Bennt. Mech. Comp.	.14	.43	.40	.49	.16	.22	.26	.24	.07	.59	-.06	.16	-.14	.12	-.07	.40	.13	.06	.30
SVIB	103 Artist	-.05	.03	-.29	-.11	.11	.07	.04	.08	-.08	-.20	.18	-.14	.15	.11	.07	-.01	.23	.24	-.09
	104 Psychol.	.17	.22	.01	.16	.34	.30	.31	.35	-.09	.02	.00	.00	-.01	.09	-.16	.23	.29	.20	.23
	105 Physician	.11	.08	.07	.09	.06	.04	.08	.07	.00	.08	.06	.01	.00	.14	-.09	.03	.11	.05	.12
	106 Math-Sci. Tchr.	.08	.02	.30	.14	-.06	-.02	.02	-.02	-.05	.22	-.06	.14	-.14	.09	-.08	.07	-.09	-.17	.09
	107 Sec. "Y"	.06	.01	.08	.03	.09	.00	.08	.08	-.07	-.07	.01	.12	-.06	.06	-.10	-.03	-.12	-.07	.13
	108 Soc. Studies H.S.	.10	.05	.21	.13	.16	.08	.13	.15	-.01	-.05	.00	.14	-.10	.04	-.15	.10	-.03	.00	.28
	109 Soc. Worker	.06	.15	-.20	.02	.32	.22	.18	.26	-.05	-.28	.06	.00	-.02	.03	-.09	.02	.17	.23	.09
	110 Music Performer	-.09	.06	-.15	-.03	.12	.15	.09	.12	-.14	-.18	.01	-.11	.05	.08	.03	-.04	.13	.20	-.03
	111 Life Ins. Sales.	-.08	-.08	.02	-.05	-.09	-.07	-.02	-.04	.02	-.10	.09	.15	.00	-.04	.00	-.09	-.25	-.14	.02
	112 Lawyer	.03	.03	-.11	-.02	.18	.13	.15	.18	.09	-.32	.02	-.01	.02	-.04	-.05	.07	.14	.20	.10
	113 Author-Journ.	-.01	.02	-.06	-.02	-.03	.01	.09	.05	-.10	.09	.08	-.02	.10	-.01	.08	-.04	.04	.06	.10
	1 Sex	-.05	-.05	.31	.11	-.22	-.14	-.02	-.13	-.04	.39	-.02	.17	.03	-.01	.09	-.02	-.24	-.25	.12

90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	1	Mean	S.D.
.14	-.12	.28	.29	.29	.14	.18	.17	.16	.08	.18	.30	.14	-.05	.17	.11	.08	.06	.10	.06	-.09	-.08	.03	-.01	-.05	2.40	1.09
.54	.41	.52	.47	.40	.36	.33	.32	.29	.29	.48	.65	.43	.03	.22	.08	.02	.01	.05	.15	.06	-.08	.03	.02	-.05	24.50	6.24
.14	.13	.37	.70	.42	.11	.40	.39	.34	-.08	.42	.51	.40	-.29	.01	.07	.30	.08	.21	-.20	-.15	.02	-.11	-.06	.31	12.36	3.95
.45	.36	.56	.66	.48	.32	.42	.41	.36	.17	.53	.70	.49	-.11	.16	.09	.14	.03	.13	.02	-.03	-.05	-.02	-.02	.11	36.79	8.66
.64	.46	.48	.30	.42	.35	.29	.26	.20	.41	.42	.62	.16	.11	.34	.06	-.06	.09	.16	.32	.12	-.09	.18	-.03	-.22	45.05	8.32
.45	.32	.33	.31	.31	.27	.29	.20	.18	.31	.37	.50	.22	.07	.30	.04	-.02	.00	.08	.22	.15	-.07	.13	.01	-.14	21.51	5.22
.51	.37	.48	.45	.41	.35	.38	.26	.18	.23	.45	.59	.26	.04	.31	.08	.02	.08	.13	.18	.09	-.02	.15	.09	-.02	32.83	11.59
.61	.44	.50	.42	.44	.38	.36	.28	.22	.35	.47	.65	.24	.08	.35	.07	-.02	.08	.15	.26	.12	-.04	.18	.05	-.13	99.50	22.33
.08	.25	.13	.21	.09	.03	.08	.07	.04	.13	.32	.22	.07	-.08	-.09	.00	-.05	-.07	-.01	-.05	-.14	.02	.09	-.10	-.04	92.06	18.28
.02	.12	.15	.37	.31	.21	.45	.40	.42	.01	.39	.41	.59	-.20	.02	.08	.22	-.07	-.05	-.28	-.18	-.10	-.32	.09	.39	27.88	10.11
.01	.06	-.09	.05	.08	.04	-.01	.02	-.03	-.01	.02	.02	-.06	.18	.00	.06	-.06	.01	.00	.06	.01	.09	.02	.08	-.02	2.54	1.75
.04	.06	.17	.11	.12	.13	.05	.05	.13	-.04	.09	.12	.16	-.14	.00	.01	.14	.12	.14	.00	-.11	.15	-.01	-.02	.17	3.56	1.03
-.06	-.07	-.22	-.21	-.23	-.03	-.20	-.14	-.09	-.15	-.14	-.23	-.14	.15	-.01	.00	-.14	-.06	-.10	-.02	.05	.00	.02	.10	.03	1.58	.67
.19	.22	.18	.22	.19	.23	.12	.13	.17	.02	.16	.26	.12	.11	.09	.14	.09	.06	.04	.03	.08	-.04	-.04	-.01	-.01	2.09	.45
-.08	-.01	-.12	-.04	-.06	-.08	-.01	.01	.01	-.01	-.05	-.06	-.07	.07	-.16	-.09	-.08	-.10	-.15	-.09	.03	.00	-.05	.08	.09	1.12	.36
.53	.42	.45	.49	.47	.38	.44	.42	.47	.31	.57	.74	.40	-.01	.23	.03	.07	-.03	.10	.02	-.04	-.09	.07	-.04	-.02	18.10	2.34
	.52	.50	.35	.40	.45	.26	.23	.14	.42	.32	.64	.13	.23	.29	.11	-.09	-.12	-.03	.17	.13	-.25	.14	.04	-.24	16.56	3.79
.52		.38	.26	.24	.19	.10	.12	.13	.42	.33	.50	.06	.24	.20	.05	-.17	-.07	.00	.23	.20	-.14	.20	.06	-.25	9.43	2.18
.50	.38		.46	.47	.29	.38	.34	.34	.09	.52	.68	.30	-.09	.23	.12	.09	.13	.28	.09	-.03	.02	.10	.10	.12	18.69	3.57
.35	.26	.46		.63	.31	.56	.56	.43	-.07	.42	.74	.54	-.17	.22	.14	.26	.07	.17	-.17	-.02	-.06	-.07	.14	.36	13.36	5.43
.40	.24	.47	.63		.46	.59	.64	.43	.00	.42	.77	.58	-.13	.24	.13	.17	.09	.11	-.07	-.09	.01	-.01	.21	.30	11.86	3.87
.45	.19	.29	.31	.46		.36	.35	.24	.15	.29	.53	.36	-.01	.25	.17	.10	.06	.04	.06	.02	-.11	-.01	.14	.07	7.63	2.01
.26	.10	.38	.56	.59	.36		.66	.58	-.15	.50	.68	.62	-.28	.16	.09	.29	.09	.15	-.30	-.14	.01	-.13	.22	.55	6.63	2.36
.23	.12	.34	.56	.64	.35	.66		.72	.00	.45	.74	.63	-.32	.20	.08	.28	.12	.13	-.26	-.21	.03	-.16	.19	.55	13.26	4.96
.14	.13	.34	.43	.43	.24	.58	.72		.01	.58	.66	.62	-.30	.13	-.01	.27	.06	.16	-.32	-.23	.12	-.10	.15	.53	15.31	3.18
.42	.42	.09	-.07	.00	.15	-.15	.00	.01		.17	.29	-.07	.25	.13	.05	-.24	-.13	-.16	.34	.24	-.15	.16	-.25	-.55	14.10	3.89
.32	.33	.52	.42	.42	.29	.50	.45	.58	.17		.72	.45	-.14	.07	-.02	.10	.03	.15	-.12	-.14	.07	.07	.06	.21	39.18	4.05
.64	.50	.68	.74	.77	.53	.68	.74	.66	.29	.72		.61	-.12	.29	.12	.16	.05	.15	-.06	-.05	-.06	.02	.13	.24	104.03	27.27
.13	.06	.30	.54	.58	.36	.62	.63	.62	-.07	.45	.61		-.33	.17	.09	.32	.17	.12	-.21	-.15	-.02	-.24	.11	.53	39.13	10.96
.23	.24	-.08	-.17	-.13	-.01	-.28	-.32	-.30	.25	-.14	-.12	-.33		.11	.29	-.47	-.41	-.46	.12	.40	-.25	.21	.36	-.51	2.03	1.37
.29	.20	.23	.22	.24	.25	.16	.20	.13	.13	.07	.29	.17	.11		.36	.22	.23	.26	.31	.31	-.18	.22	.17	.01	1.77	1.06
.11	.05	.12	.14	.13	.17	.09	.08	-.01	.05	-.02	.12	.09	.29	.36		.31	-.02	-.07	.02	.35	-.38	-.09	.15	-.05	2.40	1.36
-.09	-.17	.09	.26	.17	.10	.29	.28	.27	-.24	.10	.16	.32	-.47	.22	.31		.32	.44	-.19	-.01	-.21	-.39	-.21	.44	3.31	1.52
-.12	-.07	.13	.07	.09	.06	.09	.12	.06	-.13	.03	.05	.17	-.41	.23	-.02	.32		.72	.33	.03	.35	-.01	-.08	.24	2.18	1.23
-.03	.00	.28	.17	.11	.04	.15	.13	.16	-.16	.15	.15	.12	-.46	.26	-.07	.44	.72		.30	.05	.27	.10	-.11	.26	2.55	1.45
.17	.23	.09	-.17	-.07	.06	-.30	-.26	-.32	.34	-.12	-.06	-.21	.12	.31	.02	-.19	.33	.30		.48	.13	.38	-.19	-.46	2.31	1.69
.13	.20	-.03	-.02	-.09	.02	-.14	-.21	-.23	.24	-.14	-.05	-.15	.40	.31	.35	-.01	.03	.05	.48		-.22	.12	.07	-.28	2.42	1.43
-.25	-.14	.02	-.06	.01	-.11	.01	.03	.12	-.15	.07	-.06	-.02	-.25	-.18	-.38	-.21	.35	.27	.13	-.22		.31	.20	.27	2.46	1.30
.14	.20	.10	-.07	-.01	-.01	-.13	-.16	-.10	.16	.07	.02	-.24	.21	.22	-.09	-.39	-.01	.10	.38	.12	.31		.12	-.32	2.35	1.18
.04	.06	.10	.14	.21	.14	.22	.19	.15	-.25	.06	.13	.11	.36	.17	.15	-.21	-.08	-.11	-.19	.07	.20	.12		.34	2.67	1.28
-.24	-.25	.12	.36	.30	.07	.55	.55	.53	-.55	.21	.24	.53	-.51	.01	-.05	.44	.24	.26	-.46	-.28	.27	-.32	.34		1.70	.46

III cont.

Intercorrelations of Psychological Tests, Counselor Ratings, and Class Grades. Sample 4 - Fall, 1962-63 N = 207

VARIABLE		71	75	76	77	78	79	80	81	82	83	84	85	86	87	88	102	103	104	105	106
	71 Class Grade(s)		.29	.29	.34	.35	.33	.32	.36	.07	.09	.20	.04	.12	.19	.10	.21	.12	.20	.14	.08
WESMAN IQ	75 Vocabulary	.29		.50	.92	.56	.58	.61	.64	.22	.32	.30	-.07	.13	.34	-.01	.29	.07	.26	.14	.04
	76 Numbers	.29	.50		.80	.27	.28	.27	.30	.22	.41	.32	-.04	.14	.23	.09	.45	-.06	.23	.26	.28
	77 Total	.34	.92	.80		.51	.53	.54	.58	.26	.40	.35	-.07	.15	.34	.03	.40	.03	.29	.22	.15
COOP. ENG. READING COMP.	78 Vocabulary	.35	.56	.27	.51		.70	.69	.88	.19	.11	.25	.01	.16	.26	.09	.20	.26	.46	.25	-.04
	79 Level of Comp.	.33	.58	.28	.53	.70		.84	.90	.18	.16	.20	.02	.09	.26	.06	.12	.28	.37	.17	-.11
	80 Speed of Comp.	.32	.61	.27	.54	.69	.84		.94	.29	.20	.20	-.01	.10	.22	-.02	.08	.26	.40	.17	-.15
	81 Total	.36	.64	.30	.58	.88	.90	.94		.26	.18	.24	-.01	.12	.27	.03	.14	.30	.46	.23	-.11
EMPLOYEE APT. SURV.	82 Visual Speed	.07	.22	.22	.26	.19	.18	.29	.26		.25	.07	-.03	.12	.14	-.09	-.10	-.04	.00	-.06	-.14
	83 Spatial Rel.	.09	.32	.41	.40	.11	.16	.20	.18	.25		.17	-.02	.03	.18	.01	.49	-.08	.04	.08	.17
COUNSELOR INTERVIEW FORM	84 Reas. for Attnd.	.20	.30	.32	.35	.25	.20	.20	.24	.07	.17		.14	.41	.19	.19	.21	-.06	.18	.15	.17
	85 Stud. Apprel. Instr.	.04	-.07	-.04	-.07	.01	.02	-.01	-.01	-.03	-.02	.14		.36	.11	.64	-.02	-.03	-.01	-.04	.01
	86 Level of Motivation	.12	.13	.14	.15	.16	.09	.10	.12	.12	.03	.41	.36		.14	.40	.11	-.03	.13	.17	.12
	87 Self Perception	.19	.34	.23	.34	.26	.26	.22	.27	.14	.18	.19	.11	.14		.12	.21	.02	.00	.08	.02
	88 Attitude	.10	-.01	.09	.03	.09	.06	-.02	.03	-.09	.01	.19	.64	.40	.12		.04	-.04	.10	.05	.10
	102 Bennt. Mech. Comp.	.21	.29	.45	.40	.20	.12	.08	.14	-.10	.49	.21	-.02	.11	.21	.04		-.04	.12	.30	.38
SVIB	103 Artist	.12	.07	-.06	.03	.26	.28	.26	.30	-.04	-.08	-.06	-.03	-.03	.02	-.04	-.04		.45	.44	-.22
	104 Psychol.	.20	.26	.23	.29	.46	.37	.40	.46	.00	.04	.18	-.01	.13	.00	.10	.12	.45		.52	.15
	105 Physician	.14	.14	.26	.22	.25	.17	.17	.23	-.06	.08	.15	-.04	.17	.08	.05	.30	.44	.52		.49
	106 Math-Sci. Tchr.	.08	.04	.28	.15	-.04	-.11	-.15	-.11	-.14	.17	.17	.01	.12	.02	.10	.38	-.22	.15	.49	
	107 Sec. "Y"	-.09	-.13	.00	-.09	-.03	-.12	-.10	-.10	-.13	.02	.07	.14	.06	-.12	.10	.06	-.24	.10	-.04	.29
	108 Soc. Studies H.S.	-.05	-.07	.07	-.01	-.02	-.09	-.08	-.07	-.12	.00	.10	.18	.09	-.09	.15	.00	-.23	.16	-.08	.24
	109 Soc. Worker	.07	.08	.00	.06	.20	.14	.15	.17	-.04	-.12	.13	.04	.09	-.01	.06	-.14	.01	.44	-.03	-.01
	110 Music Performer	-.03	-.01	-.09	-.04	.11	.16	.11	.14	-.10	.08	-.07	-.02	-.14	.04	-.07	.07	.40	.34	.28	.08
	111 Life Ins. Sales.	-.09	-.18	-.14	-.19	-.19	-.17	-.13	-.18	.03	-.06	-.02	.14	-.03	-.17	.08	-.17	-.24	-.22	-.42	-.35
	112 Lawyer	-.07	.07	.11	.06	.19	.18	.20	.20	-.03	-.09	.02	.09	-.04	.03	.07	-.11	.20	.38	-.03	-.35
	113 Author-Journ.	.06	.09	-.03	.05	.25	.27	.28	.30	-.15	-.03	-.02	-.01	-.08	.00	-.03	-.01	.75	.41	.24	-.38
	114 Class	.08	.06	.03	.06	.18	.17	.14	.17	.04	-.07	.01	-.09	.07	.03	-.09	-.03	.12	.01	.05	-.17
	1 Sex	-.09	-.12	.19	.00	-.18	-.29	-.28	-.26	-.22	.34	.07	.06	.05	-.02	.12	.57	-.22	-.11	.14	.42
	4 Age	.16	.01	-.02	.00	.34	-.01	-.03	.12	-.10	-.06	.12	.03	.16	.08	.10	.17	-.01	.18	.08	.12

Counselor Ratings,

-63   N = 207

81	82	83	84	85	86	87	80	102	103	104	105	106	107	108	109	110	111	112	113	114	1	4	Mean	S.D.
36	.07	.09	.20	.04	.12	.19	.10	.21	.12	.20	.14	.08	-.09	-.05	.07	-.03	-.09	.07	.06	.08	-.09	.16	4.48	1.13
64	.22	.32	.30	-.07	.13	.34	-.01	.29	.07	.26	.14	.04	-.13	-.07	.08	-.01	-.18	.07	.09	.06	-.12	.01	23.95	5.95
30	.22	.41	.32	-.04	.14	.23	.09	.45	-.06	.23	.26	.28	.00	.07	.00	-.09	-.14	.11	-.03	.03	.19	-.02	11.36	3.86
58	.26	.40	.35	-.07	.15	.34	.03	.40	.03	.29	.22	.15	-.09	-.01	.06	-.04	-.19	.06	.05	.06	.00	.00	35.26	8.50
88	.19	.11	.25	.01	.16	.26	.09	.20	.26	.46	.25	-.04	-.03	-.02	.20	.11	-.19	.19	.25	.18	-.18	.34	43.02	9.47
90	.18	.16	.20	.02	.09	.26	.06	.12	.28	.37	.17	-.11	-.12	-.09	.14	.16	-.17	.18	.27	.17	-.29	-.01	21.37	4.92
94	.29	.20	.20	-.01	.10	.22	-.02	.08	.26	.40	.17	-.15	-.10	-.08	.15	.11	-.13	.20	.28	.14	-.28	-.03	31.92	11.74
	.26	.18	.24	-.01	.12	.27	.03	.14	.30	.46	.23	-.11	-.10	-.07	.17	.14	-.18	.20	.30	.17	-.26	.12	96.22	23.92
26		.25	.07	-.03	.12	.14	-.09	-.10	-.04	.00	-.06	-.14	-.13	-.12	-.04	-.10	.03	-.03	-.15	.04	-.22	-.10	97.55	19.74
18	.25		.17	-.02	.03	.18	.01	.49	-.08	.04	.08	.17	.02	.00	-.12	.08	-.06	-.09	-.03	-.07	.34	-.06	28.20	9.41
24	.07	.17		.14	.41	.19	.19	.21	-.06	.18	.15	.17	.07	.10	.13	-.07	-.02	.02	-.02	.01	.07	.12	2.88	.85
01	-.03	-.02	.14		.36	.11	.64	-.02	-.03	-.01	-.04	.01	.14	.18	.04	-.02	.14	.09	-.01	-.09	.06	.03	3.44	1.02
12	.12	.03	.41	.36		.14	.40	.11	-.03	.13	.17	.12	.06	.09	.09	-.14	-.03	-.04	-.08	.07	.05	.16	3.66	1.03
27	.14	.18	.19	.11	.14		.12	.21	.02	.00	.08	.02	-.12	-.09	-.01	.04	-.17	.03	.00	.03	-.02	.08	3.05	.60
03	-.09	.01	.19	.64	.40	.12		.04	-.04	.10	.05	.10	.10	.15	.06	-.07	.08	.07	-.03	-.09	.12	.10	3.70	.82
14	-.10	.49	.21	-.02	.11	.21	.04		-.04	.12	.30	.38	.06	.00	-.14	.07	-.17	-.11	-.01	-.03	.57	.17	39.38	11.27
30	-.04	-.08	-.06	-.03	-.03	.02	-.04	-.04		.45	.44	-.22	-.24	-.23	.01	.40	-.24	.20	.75	.12	-.22	-.01	2.23	1.57
46	.00	.04	.18	-.01	.13	.00	.10	.12	.45		.52	.15	.10	.16	.44	.34	-.22	.38	.41	.01	-.11	.18	2.37	1.54
23	-.06	.08	.15	-.04	.17	.08	.05	.30	.44	.52		.49	-.04	-.08	-.03	.28	-.42	-.03	.24	.05	.14	.08	2.88	1.75
11	-.14	.17	.17	.01	.12	.02	.10	.38	-.22	.15	.49		.29	.24	-.01	.08	-.35	-.35	-.38	-.17	.42	.12	3.18	1.92
10	-.13	.02	.07	.14	.06	-.12	.10	.06	-.24	.10	-.04	.29		.81	.62	.18	.35	.08	-.16	-.06	.32	.08	1.94	1.40
07	-.12	.00	.10	.18	.09	-.09	.15	.00	-.23	.16	-.08	.24	.81		.61	.11	.40	.24	-.07	-.11	.33	.11	2.51	1.75
17	-.04	-.12	.13	.04	.09	-.01	.06	-.14	.01	.44	-.03	-.01	.62	.61		.28	.27	.30	.09	.03	-.14	.12	2.80	1.67
14	-.10	.08	-.07	-.02	-.14	.04	-.07	.07	.40	.34	.28	.08	.18	.11	.28		-.14	.13	.39	-.07	.11	-.09	.30	1.76
18	.03	-.06	-.02	.14	-.03	-.17	.08	-.17	-.24	-.22	-.42	-.35	.35	.40	.27	-.14		.45	.02	.01	.15	-.04	2.28	1.62
20	-.03	-.09	.02	.09	-.04	.03	.07	-.11	.20	.38	-.03	-.35	.08	.24	.30	.13	.45		.53	.08	.01	.02	2.48	1.54
30	-.15	-.03	-.02	-.01	-.08	.00	-.03	-.01	.75	.41	.24	-.38	-.10	-.07	.09	.39	.02	.53		.11	-.02	-.01	2.57	1.61
17	.04	-.07	.01	-.09	.07	.03	-.09	-.03	.12	.01	.05	-.17	-.06	-.11	.03	-.07	.01	.03	.11		-.20	.02	10.76	5.85
26	-.22	.34	.07	.06	.05	-.02	.12	.57	-.22	-.11	.14	.42	.32	.33	-.14	.11	.15	.01	-.02	-.20		.12	1.65	.48
12	-.10	-.06	.12	.03	.16	.08	.10	.17	-.01	.18	.08	.12	.08	.11	.12	-.09	-.04	.02	-.01	.02	.12		3.35	1.71

IV cont.

CODING OF BIOGRAPHICAL INFORMATION VARIABLES

SAMPLE 1, SPRING 1962
and
SAMPLE 2, FALL 1962-63

VARIABLE					Questionnaire Item Number
No.	Name				
-	BIB IDENTIFICATION NUMBER				-
1	SEX				-
	No Response	0			
	Female	1			
	Male	2			
2	HEIGHT				-
	No Response	0	5'6" - 5'9"	4	
	4'9" and under	1	5'10" - 6'1"	5	
	4'10" - 5'1"	2	6'2" - 6'5"	6	
	5'2" - 5'5"	3	6'6" and over	7	
3	WEIGHT				-
	No Response	0	150 - 174 lbs	5	
	74 lbs and under	1	175 - 199 lbs	6	
	75 - 99 lbs	2	200 - 224 lbs	7	
	100 - 124 lbs	3	225 lbs and over	8	
	125 - 149 lbs	4			
4	AGE				1
	No Response	0	30 - 39 yrs	5	
	20 yrs and under	1	40 - 49 yrs	6	
	21 - 22 yrs	2	50 - 59 yrs	7	
	23 - 24 yrs	3	60 yrs and over	8	
	25 - 29 yrs	4			
5	MARITAL STATUS				2
	No Response	0	Divorced	1	
	Single	1	Separated	1	
	Married	2	Widowed	1	
6	NUMBER RESIDING IN HOUSEHOLD (INCLUDES SELF)				3
	No Response	0	Four	4	
	One	1	Five	5	
	Two	2	Six or More	6	
	Three	3			
7	NUMBER OF DEPENDENTS (EXCLUDES SELF)				4
	No Response	0	Three	4	
	None	1	Four	5	
	One	2	Five	6	
	Two	3	Six or More	7	

VARIABLE

No.	Name				Questionnaire Item Number
8	ATTITUDE OF SPOUSE TOWARD UC ATTENDANCE				5
	No Response	0	Somewhat Encouraging	2	
	Very Encouraging	4	Not Encouraging	1	
	Encouraging	3	Not Married	C	
9	HOW TUITION IS PAID				6
	No Response	0	Employer Pays Part	1	
	You Pay It All	2	Family Pays All	1	
	You Pay Part	1	Family Pays Part	1	
	Employer Pays All	1	Grant, Scholarship	1	
10	GENERAL HEALTH LAST THREE YEARS				7
	No Response	0	Average	3	
	Excellent	5	Poor	2	
	Very Good	4	Very Poor	1	
11	HOW DO YOU SLEEP				8
	No Response	0	Average	2	
	Very Well	4	Not Very Well	1	
	Better than Average	3			
12	NUMBER OF COLLEGE HOURS COMPLETED				9
	No Response	0	61 - 90	3	
	0 - 30	1	91 - 120	4	
	31 - 60	2	More than 120	5	
13	PURPOSE FOR UC COURSES--BETTER JOB				10
	No Response to Q.	0			
	Not Checked	1			
	Checked	2			
14	PURPOSE FOR UC COURSES--PERSONAL SATISFACTION				
	No Response to Q.	0			
	Not Checked	1			
	Checked	2			
15	PURPOSE FOR UC COURSES--EMPLOYER REQUEST				
	No Response to Q.	0			
	Not Checked	1			
	Checked	2			
16	PURPOSE FOR UC COURSES--DEVELOP HOBBY				
	No Response to Q.	0			
	Not Checked	1			
	Checked	2			
17	PURPOSE FOR UC COURSES--COMPLETE DEGREE OR CERTIF.				
	No Response to Q.	0			
	Not Checked	1			
	Checked	2			

VARIABLE No.	Name				Questionnaire Item Number
18	OCCUPATION OF RESPONDENT				11
	No Response	0	Farmer	3	
	Unskilled	1	Business man	4	
	Semi-Skilled	2	Professional man	5	
	Skilled	3	Other	0	
19	CURRENT OCCUPATION DEMANDS				12
	No Response	0	Intellectual work	3	
	Manual work	1	Combination of both	2	
20	SUPERVISION OF OTHERS--HOW MANY				13
	No Response	0	Yes. 6-20	3	
	No	1	Yes. 21-50	4	
	Yes. 1-5	2	Yes. Over 50	5	
21	MORE THAN ONE PAID JOB--HOW MANY				14
	No Response	0	Three	2	
	No	1	Four or more	2	
	Two	2			
22	PROGRESS ON JOB				15
	No Response	0	Average	2	
	Exceptionally good	4	Poor	1	
	Good	3			
23	MEMBERSHIP IN FRATERNAL ORGANIZATIONS				16
	No Response	0	Any 2 yesses checked	2	
	None	1	Any 3 yesses checked	2	
	Any 1 yes checked	2			
24	MEMBERSHIP IN COMMUNITY ACTIVITIES--PTA, Etc.				17
	No Response	0	Any 2 yesses checked	2	
	None	1	Any 3 yesses checked	2	
	Any 1 yes checked	2			
25	MEMBER CAREER ORGS.--BUS., PROFES., LABOR UNIONS				18
	No Response	0	Any 2 yesses checked	2	
	None	1	Any 3 yesses checked	2	
	Any 1 yes checked	2			
26	MEMBERSHIP IN POLITICAL GROUPS				19
	No Response	0	Any 2 yesses checked	2	
	None	1	Any 3 yesses checked	2	
	Any 1 yes checked	2			
27	TOTAL MEMBERSHIPS IN GROUPS LISTED ABOVE				20
	No Response	0	Three	4	
	None	1	Four	5	
	One	2	Five or more	6	
	Two	3			

VARIABLE

No.	Name				Questionnaire Item Number
28	ATTENDANCE AT CHURCH OR SYNAGOGUE				21
	No Response	0	Rarely	2	
	Weekly	1	Never	2	
	Occasionally	2			
29	TYPE OF COMMUNITY RESIDED IN MOST OF LIFE				22
	No Response	0	City 1,000-10,000	2	
	City 100,00 or more	1	Town less than 1,000	2	
	City 10,000-100,000	1	In the country	2	
30	HOME OWNER				23
	No Response	0			
	Yes	2			
	No	1			
31	ATTENDANCE PAST YEAR--ART EXHIBITS				24
	No Response to Q. 24	0	2 - 5	2	
	0 or 1	1	More than 5	3	
32	ATTENDANCE PAST YEAR--ATHLETIC EVENTS				
	No Response to Q. 24	0	2 - 5	2	
	0 or 1	1	More than 5	3	
33	ATTENDANCE PAST YEAR--CLASSICAL CONCERTS				
	No Response to Q. 24	0	2 - 5	2	
	0 or 1	1	More than 5	3	
34	ATTENDANCE PAST YEAR--POPULAR CONCERTS				
	No Response to Q. 24	0	2 - 5	2	
	0 or 1	1	More than 5	3	
35	ATTENDANCE PAST YEAR--LECTURES (NOT PROFESSIONAL)				
	No Response to Q. 24	0	2 - 5	2	
	0 or 1	1	More than 5	3	
36	HRS PER WEEK--ACTIVE RECREA. (SPORTS, HIKING, Etc.)				25
	No Response	0	6 - 10	3	
	None	1	11 - 15	4	
	1 - 5	2	16 or more	5	
37	HRS PER WEEK--PASSIVE RECREA. (CARDS, CHESS, Etc.)				26
	No Response	0	6 - 10	3	
	None	1	11 - 15	4	
	1 - 5	2	16 or more	5	
38	HRS PER WEEK SPENT WATCHING T.V.				27
	No Response	0	4 - 6	3	
	None	5	7 - 9	2	
	1 - 3	4	10 or more	1	

VARIABLE

No.	Name	Questionnaire Item Number
39	LIKES WORK CROSSWRD PUZZ OR NWSPAPR-MAG. QUIZZES	28

No Response	0		
Yes	2		
No	1		

No.	Name	Questionnaire Item Number
40	MAGS REG READ--READ. DIGEST, PAGEANT, SAT. EVE. POST	29

No Response	0	Two	3
None	1	Three	4
One	2		

No.	Name	Questionnaire Item Number
41	MAGS REG READ--ATL. MON, HARP, NAT. GEO, SAT. REV, FORTN, NEW YORKER	30

No Response	0	Three	4
None	1	Four	5
One	2	Five	6
Two	3	Six	7

No.	Name	Questionnaire Item Number
42	SELF RATING OF READING SPEED AND COMPREHENSION	31

No Response	0	Average	2
Excellent	4	Poor	1
Good	3		

No.	Name	Questionnaire Item Number
43	HAS USE OF PUBLIC LIBRARY CARD	32

No Response	0		
Yes	2		
No	1		

No.	Name	Questionnaire Item Number
44	NO. FICTION BOOKS READ PAST 12 MOS. (NOT SCHOOL)	33

No Response	0	11 - 15	3
1 - 5	1	16 - 20	4
6 - 10	2	21 or more	5

No.	Name	Questionnaire Item Number
45	NO. NON-FICTION BOOKS READ PAST 12 MOS.	34

No Response	0	11 - 15	4
None	1	16 - 20	5
1 - 5	2	21 or more	6
6 - 10	3		

No.	Name	Questionnaire Item Number
46	ESTIMATE NO. BOOKS PERSONALLY OWNED	35

No Response	0	50 - 74	3
0 - 24	1	75 - 99	4
25 - 49	2	100 or more	5

No.	Name	Questionnaire Item Number
47	NO. FAMILY MEMBERS WHO ARE HIGH SCHOOL GRADUATES	36

No Response	0	Three	4
None	1	Four	5
One	2	Five or more	6
Two	3		

VARIABLE

No.	Name				Questionnaire Item Number
48	NO. FAMILY MEMBERS WHO ARE COLLEGE GRADUATES				37
	No Response	0	Three	4	
	None	1	Four	5	
	One	2	Five or more	6	
	Two	3			
49	NUMBER OF BROTHERS AND SISTERS				38
	No Response	0	Three	4	
	None	1	Four	5	
	One	2	Five or more	6	
	Two	3			
50	FATHERS OCCUPATION				39
	No Response	0	Farmer	3	
	Unskilled	1	Business man	4	
	Semi-Skilled	2	Professional man	5	
	Skilled	3			
51	FATHERS EDUCATION				40
	No Response	0	College 2	5	
	8th grade or less	1	College 3	6	
	9, 10, 11	2	College 4	7	
	Grade 12	3	Graduate 1	8	
	College 1	4	Graduate 2 or more	9	
52	MOTHERS EDUCATION				41
	No Response	0	College 2	5	
	8th grade or less	1	College 3	6	
	9, 10, 11	2	College 4	7	
	Grade 12	3	Graduate 1	8	
	College 1	4	Graduate 2 or more	9	
53	EDUCATION OF RESPONDENT				42
	No Response	0	College 2	5	
	8th grade or less	1	College 3	6	
	9, 10, 11	2	College 4	7	
	Grade 12	3	Graduate 1	8	
	College 1	4	Graduate 2 or more	9	
54	LAST SCHOOL ATTENDANCE BEFORE REPORTING SEMESTER				43
	No Response	0	2 yrs. ago	3	
	Preceding Semester	5	3 yrs. ago	2	
	1 yr. ago	4	4 yrs. or more ago	1	
55	RANK IN CLASS IN HIGH SCHOOL				44
	No Response	0	3rd Quarter	2	
	Top Quarter	4	4th Quarter	1	
	2nd Quarter	3			

VARIABLE

No. **Name** — **Questionnaire Item Number**

56 GRADES REFLECT ABILITY FAIRLY ACCURATELY — 45

No Response	0	Not very often	3
Almost always	1	Almost never	4
Most of the time	2		

57 AVERAGE NO. HOURS OF STUDY PER WEEK AT PRESENT — 46

No Response	0	15 - 19	4
1 - 4	1	20 - 24	5
5 - 9	2	25 or more	6
10 - 14	3		

58 SUBJECT MATTER AREA YOU LIKE MOST — 47

No Response	0	Foreign Language	2
Science	1	English	2
Social Studies	2	Math	1

59 SUBJECT MATTER YOU LIKE LEAST — 48

No Response	0	Foreign Language	1
Science	2	English	1
Social Studies	1	Math	2

60 IF NATIVE BORN, SPEAKS FOREIGN LANG. (LEARNED AT SCHOOL) — 49

No Response	0	With aver. fluency	3
No	1	Less than aver. fluency	2
Yes, fluently	4	Foreign-native lang.	0

61 IF NATIVE BORN, READS FOREIGN LANG. (LEARNED AT SCHOOL) — 50

No Response	0	Average reader	3
No	1	Less than aver. reader	2
Excellent Reader	4		

62 IN FIVE YEARS WOULD LIKE TO HAVE PRESENT JOB — 51

No Response to Q. 51	0
Not checked	1
Checked	2

63 IN FIVE YEARS WOULD LIKE JOB SUPERVISING OTHERS

No Response to Q. 51	0
Not checked	1
Checked	2

64 IN FIVE YEARS WOULD LIKE JOB WORKING ALONE

No Response to Q. 51	0
Not checked	1
Checked	2

65 IN FIVE YEARS, JOB WITH MORE MONEY AND RESPONSIBILITY

No Response to Q. 51	0
Not checked	1
Checked	2

VARIABLE

No.	Name				Questionnaire Item Number
66	NUMBER OF CARS IN FAMILY				52
	No Response	0	Two	3	
	None	1	Three or more	4	
	One	2			
67	MODEL YEAR FOR OLDER CAR (IF TWO OWNED)				53
	No Response	0	1958	5	
	1952 or earlier	1	1959	6	
	1953, 1954	2	1960	7	
	1955, 1956	3	1961	8	
	1957	4	1962	9	
68	MODEL YEAR OF ONLY (OR NEWER) CAR OWNED				
	No Response	0	1958	5	
	1952 or earlier	1	1959	6	
	1953, 1954	2	1960	7	
	1955, 1956	3	1961	8	
	1957	4	1962	9	
69	ESTIMATED ANNUAL INCOME FROM ALL SOURCES				54
	No Response	0	\$5000 - \$7999	3	
	Less than \$2000	1	\$8000 - \$10,999	4	
	\$2000 - \$4999	2	\$11,000 or more	5	
70	AMOUNT OF LIFE INSURANCE				55
	No Response	0	\$5001 - \$10,000	3	
	None	1	\$10,001 - \$20,000	4	
	\$1000 - \$5000	2	More than \$20,000	5	
71	CLASS GRADE(S) A = 80, B = 60, C = 40, D = 20, F = 01				
	No grade recorded	00			
	Recorded Grade(s)	01 - 80			
72	SEM. UNITS (UNITS EARNED TIMES 2)				
	No units earned	00			
	Units earned times 2	01 - 36			
73	ADMINISTRATIVE CATEGORY				
	Grade-units recorded	0	Cancelled	5	
	Incomplete	1	Probationary	6	
	Audit	2	Nurse	7	
	Withdrew	3	NX	8	
	Transfer	4			

CODING OF PSYCHOLOGICAL TEST VARIABLES, COUNSELOR RATINGS AND CLASS GRADES

SAMPLE 3, SPRING 1962
and
SAMPLE 4, FALL 1962-63

VARIABLE

No.	Name	Spring	Fall
-	PRE-TEST RAW SCORE		
-	POST-TEST RAW SCORE		
71	CLASS GRADE		
	A	1	6
	B	2	5
	C	3	4
	D	4	3
	F	5	2
	Inc./Nx/Audit	6	1
	Withdrew	0	0

	WESMAN PERSONNEL CLASSIFICATION TEST	
75	Vocabulary Score	
76	Numerical Score	
77	Total Raw Score	
	COOPERATIVE ENGLISH READING COMPREHENSION	
78	Vocabulary Score	
79	Level of Comprehension Score	
80	Speed of Comprehension Score	
81	Total Score	
	EMPLOYEE APTITUDE SURVEY	
82	Visual Speed and Accuracy Score	
83	Space Visualization Score	
	COUNSELOR INTERVIEW FORM	
84	Reason for Attending	
	Personal Improvement	4
	Vocational Improvement	3
	Limited Educational Goal	2
	Exploratory	1
85	Student Appraisal of Instructor	
	Very Favorable	5
	Favorable	4
	Adequate	3
	Semi-Critical	2
	Critical	1

VARIABLE

No.	Name	
	COUNSELOR INTERVIEW FORM (Contd.)	
86	Level of Motivation	
	Intense Determination	5
	Moderately Strong	4
	Not Strong nor Weak	3
	Weak Motivation	2
	Very Weak	1
87	Self-Perception	
	Definitely Under-rates	5
	Tends to Under-rate	4
	Congruent with Tests	3
	Tends to Over-rate	2
	Decidedly Over-rates	1
88	Attitude	
	Usually Favorable	5
	Favorable	4
	Undecided	3
	Minor Reservations	2
	Negative	1
	PROJECT TALENT	
89	Vocabulary Score	
90	Literature Score	
91	Music Score	
92	Social Studies Score	
93	Mathematics Score	
94	Physical Science Score	
95	Biological Science Score	
96	Aero. + Space Score	
97	Elec. + Electrn. Score	
98	Mechanics Score	
99	Home Economics Score	
100	Constant Score	
101	Total Score	
102	BENNETT MECHANICAL COMPREHENSION SCORE	
	STRONG VOCATIONAL INTEREST BLANK	
	Each variable with ratings as follows:	
	A rating	6
	B+ rating	5
	B rating	4
	B- rating	3
	C+ rating	2
	C rating	1

VARIABLE

No.	Name	
	STRONG VOCATIONAL INTEREST BLANK (Contd.)	
103	Artist	
104	Psychologist	
105	Physician	
106	Math-Science Teacher	
107	"Y" Secretary	
108	Social Studies High School Teacher	
109	Social Worker	
110	Musician (Performer)	
111	Life Insurance Salesman	
112	Lawyer	
113	Author-Journalist	
114	CLASS	
	Accounting I	1
	Algebra	3
	Biology	4
	Chemistry	5
	Physics	11
	Psychology I	12
	Psychology II	13
	Trigonometry	16
	Basic Natural Science	18
	English Composition	19
1	SEX	
	Female	1
	Male	2
4	AGE	
	20 Yrs. or Under	1
	21 - 22 Yrs.	2
	23 - 24 Yrs.	3
	25 - 29 Yrs.	4
	30 - 39 Yrs.	5
	40 - 49 Yrs.	6
	50 - 59 Yrs.	7
	60 Yrs. or Over	8

FREQUENCY DISTRIBUTIONS

SAMPLE 1, SAMPLE 2 AND TOTAL

VARIABLE	SAMPLE 1		SAMPLE 2		TOTAL	
	Freq.	%age	Freq.	%age	Freq.	%age
1 SEX						
No Response	3	.1	3	.1	6	.1
Female	1272	25.4	1014	26.9	2286	26.0
Male	3734	74.5	2752	73.0	6486	73.9
2 HEIGHT						
No Response	34	.7	40	1.1	74	.8
4'9" or under	3	.1	3	.1	6	.1
4'10" - 5'1"	73	1.5	82	2.2	155	1.8
5'2" - 5'5"	726	14.5	577	15.3	1303	14.8
5'6" - 5'9"	1551	31.0	1103	29.3	2654	30.2
5'10" - 6'1"	2159	43.1	1607	42.6	3766	42.9
6'2" - 6'5"	443	8.8	346	9.2	789	9.0
6'6" and over	20	.4	11	.3	31	.4
3 WEIGHT						
No Response	45	.9	48	1.3	93	1.1
Less than 99 Lbs.	31	.6	20	.5	51	.6
100 - 124 Lbs.	582	11.6	496	13.2	1078	12.3
125 - 149 Lbs.	1035	20.7	818	21.7	1853	21.1
150 - 174 Lbs.	1667	33.3	1213	32.2	2880	32.8
175 - 199 Lbs.	1186	23.7	835	22.2	2021	23.0
200 - 224 Lbs.	378	7.5	266	7.1	644	7.3
225 Lbs and over	85	1.7	73	1.9	158	1.8
4 AGE						
No Response	18	.4	6	.2	24	.3
Under 20 Years	765	15.3	897	23.8	1662	18.9
21 - 22 Years	670	13.4	557	14.8	1227	14.0
23 - 24 Years	531	10.6	423	11.2	954	10.9
25 - 29 Years	1167	23.3	712	18.9	1879	21.4
30 - 39 Years	1258	25.1	789	20.9	2047	23.3
40 - 49 Years	450	9.0	276	7.3	726	8.3
50 - 59 Years	133	2.7	98	2.6	231	2.6
60 Years and over	17	.3	11	.3	28	.3
5 MARITAL STATUS						
No Response	4	.1	2	.1	6	.1
Not Married	2180	43.5	1990	52.8	4170	47.5
Married	2825	56.4	1777	47.1	4602	52.4
6 NUMBER RESIDING IN HOUSEHOLD (INCLUDES SELF)						
No Response	41	.8	23	.6	64	.7
One	260	5.2	221	5.9	481	5.5
Two	908	18.1	609	16.2	1517	17.3
Three	1220	24.4	940	24.9	2160	24.6
Four	1296	25.9	933	24.8	2229	25.4
Five	773	15.4	575	15.3	1348	15.4
Six or More	511	10.2	468	12.4	979	11.2

VARIABLE	SAMPLE 1 Freq.	 %age	SAMPLE 2 Freq.	 %age	TOTAL Freq.	 %age
7 NUMBER OF DEPENDENTS (EXCLUDES SELF)						
No Response	91	1.8	70	1.9	161	1.8
None	2190	43.7	1942	51.5	4132	47.1
One	707	14.1	504	13.4	1211	13.8
Two	649	13.0	408	10.8	1057	12.0
Three	647	12.9	397	10.5	1044	11.9
Four	444	8.9	265	7.0	709	8.1
Five	181	3.6	101	2.7	282	3.2
Six or More	100	2.0	82	2.2	182	2.1
8 ATTITUDE OF SPOUSE TOWARD UC ATTENDANCE						
No Response/Not Married	2097	41.9	1904	50.5	4001	45.6
Not Encouraging	63	1.3	31	.8	94	1.1
Somewhat Encouraging	279	5.6	116	3.1	395	4.5
Encouraging	918	18.3	546	14.5	1464	16.7
Very Encouraging	1652	33.0	1172	31.1	2824	32.2
9 HOW TUITION IS PAID						
No Response	26	.5	30	.8	56	.6
Does Not Pay All	2479	49.5	1707	45.3	4186	47.7
Pays All	2504	50.0	2032	53.9	4536	51.7
10 GENERAL HEALTH LAST THREE YEARS						
No Response	4	.1	4	.1	8	.1
Very Poor	7	.1	2	.1	9	.1
Poor	40	.8	24	.6	64	.7
Average	754	15.1	456	12.1	1210	13.8
Very Good	1752	35.0	1268	33.6	3020	34.4
Excellent	2452	49.0	2015	53.5	4467	50.9
11 HOW DO YOU SLEEP?						
No Response	8	.2	9	.2	17	.2
Not Very Well	91	1.8	60	1.6	151	1.7
Average	1164	23.2	755	20.0	1919	21.9
Better Than Average	699	14.0	559	14.8	1258	14.3
Very Well	3047	60.8	2386	63.3	5433	61.9
12 NUMBER OF COLLEGE HOURS COMPLETED						
No Response	252	5.0	224	5.9	476	5.4
0 - 30	2008	40.1	1864	49.5	3872	44.2
31 - 60	816	16.3	477	12.7	1293	14.7
61 - 90	649	13.0	306	8.1	955	10.9
91 - 120	457	9.1	173	4.6	630	7.2
More than 120	827	16.5	725	19.2	1552	17.7
13 PURPOSE FOR UC COURSES: BETTER JOB						
No Response to Q	37	.7	46	1.2	83	.9
Not checked	2822	56.3	2281	60.5	5103	58.1
Checked	2150	42.9	1442	38.3	3592	40.9
14 PURPOSE FOR UC COURSES: PERSONAL SATISFACTION						
No Response to Q	33	.7	46	1.2	79	.9
Not Checked	2900	57.9	2156	57.2	5056	57.6
Checked	2076	41.4	1567	41.6	3643	41.5

VARIABLE	SAMPLE 1		SAMPLE 2		TOTAL	
	Freq.	%age	Freq.	%age	Freq.	%age
15 PURPOSE FOR UC COURSES: EMPLOYER REQUEST						
No Response to Q	41	.8	46	1.2	87	1.0
Not Checked	4639	92.6	3508	93.1	8147	92.8
Checked	329	6.6	215	5.7	544	6.2
16 PURPOSE FOR UC COURSES: DEVELOP HOBBY						
No Response to Q	41	.8	46	1.2	87	1.0
Not Checked	4850	96.8	3653	96.9	8503	96.9
Checked	118	2.4	70	1.9	188	2.1
17 PURPOSE FOR UC COURSES: COMPLETE DEGREE OR CERTIFICATE						
No Response to Q	38	.8	46	1.2	84	1.0
Not Checked	2045	40.8	1949	51.7	3994	45.5
Checked	2926	58.4	1774	47.1	4700	53.5
18 OCCUPATION OF RESPONDENT						
No Response or Other	514	10.3	377	10.0	891	10.2
Unskilled	254	5.3	238	6.3	492	5.6
Semi-Skilled	566	11.3	545	14.5	1111	12.7
Skilled or Farmer	1264	25.2	926	24.6	2190	24.9
Business Man	1166	23.3	810	21.5	1976	22.5
Professional Man	1245	24.9	873	23.2	2118	24.1
19 CURRENT OCCUPATION DEMANDS						
No Response	292	5.8	219	5.8	511	5.8
Manual Work	235	4.7	210	5.6	445	5.1
Intellectual Work	2095	41.8	1750	46.4	3845	43.8
Combination of Both	2387	47.7	1590	42.2	3977	45.3
20 SUPERVISION OF OTHERS: HOW MANY?						
No Response	331	6.6	240	6.4	571	6.5
No	2885	57.6	2338	62.0	5223	59.5
Yes 1 - 5	1006	20.1	663	17.6	1669	19.0
Yes 6 - 20	427	8.5	263	7.0	690	7.9
Yes 21 - 50	220	4.4	149	4.0	369	4.2
Yes Over 50	140	2.8	116	3.1	256	2.9
21 MORE THAN ONE PAID JOB: HOW MANY?						
No Response	281	5.6	203	5.4	484	5.5
No	4365	87.1	3333	88.4	7698	87.7
2 or More	363	7.2	233	6.2	596	6.8
22 PROGRESS ON JOB						
No Response	406	8.1	304	8.1	710	8.1
Poor	129	2.6	65	1.7	194	2.2
Average	873	17.4	584	15.5	1457	16.6
Good	2520	50.3	1929	51.2	4449	50.7
Exceptionally Good	1081	21.6	887	23.5	1968	22.4
23 MEMBERSHIP IN FRATERNAL ORGANIZATIONS						
No Response	106	2.1	82	2.2	188	2.1
No	4035	80.6	3053	81.0	7088	80.7
1 or More Yeses	868	17.3	634	16.8	1502	17.1

VARIABLE	SAMPLE 1		SAMPLE 2		TOTAL	
	Freq.	%age	Freq.	%age	Freq.	%age
24 MEMBERSHIP IN COMMUNITY ACTIVITIES, PTA, ETC.						
No Response	133	2.7	112	3.0	245	2.8
No	3604	72.0	2774	73.6	6378	72.7
1 or More Yeses	1272	25.4	883	23.4	2155	24.6
25 MEMBERSHIP IN CAREER ORGANIZATIONS, BUSINESS, PROFESSIONAL, LABOR UNIONS						
No Response	163	3.3	128	3.4	291	3.3
No	3003	60.0	2329	61.8	5332	60.7
1 or More Yeses	1843	36.8	1312	34.8	3155	35.9
26 MEMBERSHIP IN POLITICAL ORGANIZATIONS						
No Response	189	3.8	142	3.8	331	3.8
No	4441	88.7	3324	88.2	7765	88.5
1 or More Yeses	379	7.6	303	8.0	682	7.8
27 TOTAL MEMBERSHIPS IN GROUPS LISTED IN VARIABLES 23, 24, 25, 26						
No Response	276	5,5	224	5.9	500	5.7
None	2044	40.8	1677	44.5	3721	42.4
One	1192	23.8	818	21.7	2010	22.9
Two	650	13.0	447	11.9	1097	12.5
Three	385	7.7	271	7.2	656	7.5
Four	204	4.1	126	3.3	330	3.8
Five or More	258	5.2	206	5.5	464	5.3
28 ATTENDANCE AT CHURCH OR SYNAGOGUE						
No Response	37	.7	39	1.0	76	.9
Weekly	2995	59.8	2182	57.9	5177	59.0
Occasionally, Rarely, Never	1977	39.5	1548	41.1	3525	40.2
29 TYPE OF COMMUNITY RESIDED IN MOST OF LIFE						
No Response	68	1.4	69	1.8	137	1.6
City 10,000 or More	4165	83.2	3121	82.8	7286	83.0
Less than 10,000	776	15.5	579	15.4	1355	15.4
30 HOME OWNER						
No Response	83	1.7	78	2.1	161	1.8
No	2798	55.9	2468	65.5	5266	60.0
Yes	2128	42.5	1223	32.4	3351	38.2
31 ATTENDANCE PAST YEAR: ART EXHIBITS						
No Response to Q	39	.8	78	2.1	117	1.3
0 or 1	3509	70.1	2459	65.2	5968	68.0
2 - 5	1070	21.4	894	23.7	1964	22.4
More than 5	391	7.8	338	9.0	729	8.3
32 ATTENDANCE PAST YEAR: ATHLETIC EVENTS						
No Response to Q	39	.8	77	2.0	116	1.3
0 or 1	1481	29.6	852	22.6	2333	26.6
2 - 5	1447	28.9	1032	27.4	2479	28.2
More than 5	2042	40.8	1808	48.0	3850	43.9

VARIABLE	SAMPLE 1 Freq.	SAMPLE 1 %age	SAMPLE 2 Freq.	SAMPLE 2 %age	TOTAL Freq.	TOTAL %age
33 ATTENDANCE PAST YEAR: CLASSICAL CONCERTS						
No Response to Q	40	.8	76	2.0	116	1.3
0 or 1	3813	76.1	2619	69.5	6432	73.3
2 - 5	806	16.1	753	20.0	1559	17.8
More than 5	350	7.0	321	8.5	671	7.6
34 ATTENDANCE PAST YEAR: POPULAR CONCERTS						
No Response to Q	39	.8	78	2.1	117	1.3
0 or 1	3698	73.8	2481	65.8	6179	70.4
2 - 5	1008	20.1	933	24.8	1941	22.1
More than 5	264	5.3	277	7.3	541	6.2
35 ATTENDANCE PAST YEAR: LECTURES (NOT PROFESSIONAL)						
No Response to Q	39	.8	77	2.0	116	1.3
0 or 1	3510	70.1	2540	67.4	6050	68.9
2 - 5	957	19.1	741	19.7	1698	19.3
More than 5	503	10.0	411	10.9	914	10.4
36 HOURS PER WEEK ACTIVE RECREATION (SPORTS, HIKING, ETC.)						
No Response	91	1.9	69	1.8	160	1.8
None	1183	23.6	553	14.7	1736	19.8
1 - 5	2781	55.4	2076	55.1	4857	55.3
6 - 10	705	14.1	762	20.2	1467	16.7
11 - 15	114	2.3	153	4.1	267	3.0
16 or More	135	2.7	156	4.1	291	3.3
37 HOURS PER WEEK PASSIVE RECREATION (CARDS, CHESS, ETC.)						
No Response	123	2.5	79	2.1	202	2.3
None	1092	21.8	799	21.2	1891	21.5
1 - 5	2994	59.8	2229	59.1	5223	59.5
6 - 10	632	12.6	499	13.2	1131	12.9
11 - 15	95	1.9	88	2.3	183	2.1
16 or More	73	1.5	75	2.0	148	1.7
38 HOURS PER WEEK SPENT WATCHING TV						
No Response	40	.8	33	.9	73	.8
None	466	9.3	468	12.4	934	10.6
1 - 3	1577	31.5	1504	39.9	3081	35.1
4 - 6	1569	31.3	1010	26.8	2579	29.4
7 - 9	635	12.7	374	9.9	1009	11.5
10 or More	722	14.4	380	10.1	1102	12.6
39 LIKES TO WORK CROSSWORD PUZZLES, NEWSPAPER, MAGAZINE QUIZZES						
No Response	50	1.0	67	1.8	117	1.3
No	2632	52.5	2027	53.8	4659	53.1
Yes	2327	46.5	1675	44.4	4002	45.6
40 MAGAZINES REGULARLY READ: READER'S DIGEST, PAGEANT, SATURDAY EVENING POST						
No Response	85	1.7	81	2.1	166	1.9
None	1921	38.4	1289	34.2	3210	36.6
One	1745	34.8	1337	35.5	3082	35.1
Two	1045	20.9	868	23.0	1913	21.8
Three	213	4.3	194	5.1	407	4.6

VARIABLE	SAMPLE 1 Freq.	SAMPLE 1 %age	SAMPLE 2 Freq.	SAMPLE 2 %age	TOTAL Freq.	TOTAL %age
41 MAGAZINES REGULARLY READ: ATLANTIC MONTHLY, HARPER'S, NATIONAL GEOGRAPHIC, SATURDAY REVIEW, FORTUNE, NEW YORKER						
No Response	151	3.0	132	3.5	283	3.2
None	2967	59.2	2141	56.8	5108	58.2
One	1015	20.3	768	20.4	1783	20.3
Two	510	10.2	419	11.1	929	10.6
Three	220	4.4	195	5.2	415	4.7
Four	88	1.8	64	1.7	152	1.7
Five	32	.6	19	.5	51	.6
Six	26	.5	31	.8	57	.6
42 SELF-RATING OF READING SPEED AND COMPREHENSION						
No Response	26	.5	28	.7	54	.6
Poor	333	6.6	217	5.8	550	6.3
Average	2431	48.5	1813	48.1	4244	48.3
Good	1846	36.9	1423	37.8	3269	37.2
Excellent	373	7.4	288	7.6	661	7.5
43 HAS USE OF PUBLIC LIBRARY CARD						
No Response	125	2.5	68	1.9	193	2.2
No	1331	26.6	1063	28.2	2394	27.3
Yes	3553	70.9	2638	70.0	6191	70.5
44 NUMBER FICTION BOOKS READ PAST 12 MONTHS (NOT SCHOOL)						
No Response	271	5.4	154	4.1	425	4.8
1 - 5	3279	65.5	2295	60.9	5574	63.5
6 - 10	709	14.2	647	17.2	1356	15.4
11 - 15	297	5.9	267	7.1	564	6.4
16 - 20	149	3.0	148	3.9	297	3.4
21 or More	304	6.1	258	6.8	562	6.4
45 NUMBER NON-FICTION BOOKS READ PAST 12 MONTHS						
No Response	77	1.5	63	1.7	140	1.6
None	933	18.6	678	18.0	1611	18.4
1 - 5	2749	54.9	1993	52.9	4742	54.0
6 - 10	750	15.0	580	15.4	1330	15.2
11 - 15	223	4.5	209	5.5	432	4.9
16 - 20	104	2.1	87	2.3	191	2.2
21 or More	173	3.5	159	4.2	332	3.8
46 ESTIMATE NUMBER OF BOOKS PERSONALLY OWNED						
No Response	62	1.3	48	1.3	110	1.3
0 - 24	1545	30.8	1327	35.2	2872	32.7
25 - 49	1238	24.7	900	23.9	2138	24.4
50 - 74	733	14.6	544	14.4	1277	14.5
75 - 99	352	7.0	218	5.8	570	6.5
100 or More	1079	21.5	732	19.4	1811	20.6
47 NUMBER FAMILY MEMBERS WHO ARE HIGH SCHOOL GRADUATES						
No Response	75	1.5	70	1.9	145	1.7
None	604	12.1	427	11.3	1031	11.7
One	901	18.0	620	16.4	1521	17.3
Two	1222	24.4	920	24.4	2142	24.4
Three	929	18.5	752	20.0	1681	19.2
Four	574	11.5	469	12.4	1043	11.9
Five or More	704	14.1	511	13.6	1215	13.8

VARIABLE	SAMPLE 1 Freq.	SAMPLE 1 %age	SAMPLE 2 Freq.	SAMPLE 2 %age	TOTAL Freq.	TOTAL %age
48 NUMBER OF FAMILY MEMBERS WHO ARE COLLEGE GRADUATES						
No Response	68	1.4	66	1.8	134	1.5
None	3147	62.8	2359	62.6	5506	62.7
One	941	18.8	719	19.1	1660	18.9
Two	469	9.4	360	9.6	829	9.4
Three	211	4.2	145	3.8	356	4.1
Four	89	1.8	68	1.8	157	1.8
Five or More	84	1.7	52	1.4	136	1.5
49 NUMBER OF BROTHERS AND SISTERS						
No Response	35	.7	33	.9	68	.8
None	797	15.9	573	15.2	1370	15.6
One	1489	29.7	1141	30.3	2630	30.0
Two	1093	21.8	813	21.6	1906	21.7
Three	590	11.8	480	12.7	1070	12.2
Four	386	7.7	288	7.6	674	7.7
Five or More	619	12.4	441	11.7	1060	12.1
50 FATHER'S OCCUPATION						
No Response	269	5.4	207	5.5	476	5.4
Unskilled	508	10.1	330	8.8	838	9.5
Semi-Skilled	798	15.9	580	15.4	1378	15.7
Skilled or Farmer	1401	28.0	1068	28.3	2469	28.1
Business Man	1476	29.5	1124	29.8	2600	29.6
Professional Man	557	11.1	460	12.2	1017	11.6
51 FATHER'S EDUCATION						
No Response	126	2.5	132	3.5	258	2.9
8th Grade or Less	2010	40.1	1300	34.5	3310	37.7
9, 10, 11	785	15.7	604	16.0	1389	15.8
Grade 12	1004	20.0	870	23.1	1874	21.3
College 1	115	2.3	74	2.0	189	2.2
College 2	197	3.9	187	5.0	384	4.4
College 3	68	1.4	47	1.2	115	1.3
College 4	334	6.7	248	6.6	582	6.6
Graduate 1	124	2.5	93	2.5	217	2.5
Graduate 2 or More	246	4.9	214	5.7	460	5.2
52 MOTHER'S EDUCATION						
No Response	84	1.7	65	1.7	149	1.7
8th Grade or Less	1806	36.1	1171	31.1	2977	33.9
9, 10, 11	845	16.9	613	16.3	1458	16.6
Grade 12	1475	29.4	1278	33.9	2753	31.4
College 1	134	2.7	93	2.5	227	2.6
College 2	233	4.7	195	5.2	428	4.9
College 3	58	1.2	47	1.2	105	1.2
College 4	237	4.7	199	5.3	436	5.0
Graduate 1	82	1.6	69	1.8	151	1.7
Graduate 2 or More	55	1.1	39	1.0	94	1.1

VARIABLE	SAMPLE 1		SAMPLE 2		TOTAL	
	Freq.	%age	Freq.	%age	Freq.	%age
53 EDUCATION OF RESPONDENT						
No Response	48	1.0	28	.7	76	.9
8th Grade or Less	38	.8	15	.4	53	.6
9, 10, 11	125	2.5	78	2.1	203	2.3
Grade 12	1468	29.3	1371	36.4	2839	32.3
College 1	658	13.1	582	15.4	1240	14.1
College 2	916	18.3	565	15.0	1481	16.9
College 3	644	12.9	273	7.2	917	10.4
College 4	677	13.5	500	13.3	1177	13.4
Graduate 1	237	4.7	170	4.5	407	4.6
Graduate 2 or More	198	4.0	187	5.0	385	4.4
54 LAST SCHOOL ATTENDANCE BEFORE REPORTING SEMESTER						
No Response	60	1.2	69	1.8	129	1.5
4 Yrs. or More Ago	620	12.4	910	24.1	1530	17.4
3 Yrs. Ago	167	3.3	238	6.3	405	4.6
2 Yrs. Ago	253	5.1	419	11.1	672	7.7
1 Yr. Ago	698	13.9	828	22.0	1526	17.4
Preceding Semester	3211	64.1	1305	34.6	4516	51.4
55 RANK IN CLASS IN HIGH SCHOOL						
No Response	148	3.0	110	2.9	258	2.9
4th Quarter	212	4.2	176	4.7	388	4.4
3rd Quarter	1051	21.0	808	21.4	1859	21.2
2nd Quarter	1806	36.1	1421	37.7	3227	36.8
Top Quarter	1792	35.8	1254	33.3	3046	34.7
56 RESPONDENT'S ESTIMATE: GRADES REFLECT ABILITY FAIRLY ACCURATELY						
No Response	105	2.1	86	2.3	191	2.2
Almost Never	77	1.5	561	14.9	638	7.3
Not Very Often	856	17.1	2366	62.8	3222	36.7
Most of the Time	3188	63.6	704	18.7	3892	44.3
Almost Always	783	15.6	52	1.4	835	9.5
57 AVERAGE NUMBER OF HOURS OF STUDY PER WEEK AT PRESENT						
No Response	406	8.1	596	15.8	1002	11.4
1 - 4	1668	33.3	1634	43.4	3302	37.6
5 - 9	1575	31.4	826	21.9	2401	27.4
10 - 14	799	16.0	397	10.5	1196	13.6
15 - 19	288	5.7	168	4.5	456	5.2
20 - 24	160	3.2	71	1.9	231	2.6
25 or More	113	2.3	77	2.0	190	2.2
58 SUBJECT MATTER AREA YOU LIKE MOST						
No Response	341	6.8	326	8.6	667	7.6
Science + Math	2556	51.0	1876	49.8	4432	50.5
Soc. Studies, For. Lang. + English	2112	42.2	1567	41.6	3679	41.9
59 SUBJECT MATTER YOU LIKE LEAST						
No Response	240	4.8	187	5.0	427	4.9
Science + Math	1594	31.8	1210	32.1	5547	31.9
Soc. Studies, For. Lang. + English	3175	63.4	2372	62.9	2804	63.2

VARIABLE	SAMPLE 1		SAMPLE 2		TOTAL	
	Freq.	%age	Freq.	%age	Freq.	%age
60 IF NATIVE BORN, SPEAKS FOREIGN LANGUAGE (LEARNED AT SCHOOL)						
No Response	263	5.3	207	5.5	470	5.4
No	3547	70.8	2621	69.5	6168	70.3
Less than average fluency	840	16.8	683	18.1	1523	17.4
With average fluency	289	5.8	214	5.7	503	5.7
Yes, fluently	70	1.4	44	1.2	114	1.3
61 IF NATIVE BORN, READS FOREIGN LANGUAGE (LEARNED AT SCHOOL)						
No Response	392	7.8	303	8.0	695	7.9
No	3242	64.7	2426	64.4	5668	64.6
Less than average reader	770	15.4	587	15.6	1357	15.5
Average reader	527	10.5	414	11.0	941	10.7
Excellent reader	78	1.6	39	1.0	117	1.3
62 IN FIVE YEARS WOULD LIKE TO HAVE PRESENT JOB						
No Response To Q	209	4.2	184	4.9	393	4.5
Not Checked	4237	84.6	3145	83.4	7382	84.1
Checked	563	11.2	440	11.7	1003	11.4
63 IN FIVE YEARS WOULD LIKE JOB SUPERVISING OTHERS						
No Response to Q	209	4.2	185	4.9	394	4.5
Not Checked	4089	81.6	3058	81.1	7147	81.4
Checked	711	14.2	526	14.0	1237	14.1
64 IN FIVE YEARS WOULD LIKE JOB WORKING ALONE						
No Response to Q	209	4.2	185	4.9	394	4.5
Not Checked	4528	90.4	3381	89.7	7909	90.1
Checked	272	5.4	203	5.4	475	5.4
65 IN FIVE YEARS - JOB WITH MORE MONEY AND RESPONSIBILITY						
No Response to Q	207	4.1	186	4.9	393	4.5
Not Checked	1014	20.2	856	22.7	1870	21.3
Checked	3788	75.6	2727	72.4	6515	74.2
66 NUMBER OF CARS IN FAMILY						
No Response	31	.6	22	.6	53	.6
None	145	2.9	104	2.8	249	2.8
One	2727	54.4	1828	48.5	4555	51.9
Two	1611	32.2	1341	35.6	2952	33.6
Three or More	495	9.9	474	12.6	969	11.0
67 MODEL YEAR FOR OLDER CAR (IF TWO OWNED)						
No Response	3757	75.0	2670	70.8	6427	73.2
1952 or Earlier	238	4.8	163	4.3	401	4.6
1953-54	210	4.2	172	4.6	382	4.4
1955-56	306	6.1	250	6.6	556	6.3
1957	132	2.6	118	3.1	250	2.8
1958	99	2.0	79	2.1	178	2.0
1959	112	2.2	120	3.2	232	2.6
1960	101	2.0	111	2.9	212	2.4
1961-1962	54	1.1	86	2.3	140	1.6

VARIABLE	SAMPLE 1		SAMPLE 2		TOTAL	
	Freq.	%age	Freq.	%age	Freq.	%age
68 MODEL YEAR OF ONLY (OR NEWER) CAR OWNED						
No Response	314	6.3	240	6.4	554	6.3
1952 or Earlier	170	3.4	102	2.7	272	3.1
1953-54	349	7.0	155	4.1	504	5.7
1955-56	748	14.9	442	11.7	1190	13.6
1957	500	10.0	350	9.3	850	9.7
1958	402	8.0	260	6.9	662	7.5
1959	602	12.0	353	9.4	955	10.9
1960	775	15.5	534	14.2	1309	14.9
1961	796	15.9	482	12.8	1278	14.6
1962	353	7.0	851	22.6	1204	13.7
69 ESTIMATED ANNUAL INCOME FROM ALL SOURCES						
No Response	935	18.7	829	22.0	1764	20.1
Less than $2000	268	5.4	245	6.5	513	5.8
$2000-4999	1243	24.8	1006	26.7	2249	25.6
$5000-7999	1775	35.4	1086	28.8	2861	32.6
$8000-10,999	563	11.2	428	11.4	991	11.3
$11,000 or more	225	4.5	175	4.6	400	4.6
70 AMOUNT OF LIFE INSURANCE						
No Response	777	15.5	724	19.2	1501	17.1
None	365	7.3	321	8.5	686	7.8
$1000-5000	1192	23.8	904	24.0	2096	23.9
$5001-10,000	862	17.2	611	16.2	1473	16.8
$10,001-20,000	1106	22.1	702	18.6	1808	20.6
More than $20,000	707	14.1	507	13.5	1214	13.8

INSTRUMENTS USED FOR PRE- AND POST- MEASUREMENTS OF CLASSROOM ACHIEVEMENT

		Pre-Test Form	Post-Test Form
Accounting I	American Institute of Accountants Achievement Test: Level 1	C-S	A-S
Accounting II	American Institute of Accountants Achievement Test: Level 1	C-S	A-S
Intermediate Algebra	Cooperative Intermediate Algebra Test	Y	Z
Basic Natural Science	*Washington University Natural Science Test	I	II
English Composition	Cooperative English Expression Test	1A	1B
English, Preparatory	Cooperative English Usage Test	OM	PM
Biology, First Year	Cooperative Biology Test	X	Y
Inorganic Chemistry	Cooperative Chemistry Test	X	Y
French, Second Year	Cooperative French Test (Advanced)	Q	R
French, First Year	Cooperative French Test (Elementary)	X	Y
Great Books	Cooperative Literary Comprehension and Appreciation	R	T
History, American	Cooperative American History	X	Y
Personnel Management	Supervisory Inventory on Human Relations	-	-
Physics	Cooperative Physics Test	Y	Z
Physics	*Washington University Physics Test	I	II
Psychology (First Semester)	*Washington University Psychology Test	I	II
Psychology (Second Semester)	*Washington University Psychology Test	I	II
Spanish, Second Year	Cooperative Spanish Test (Advanced)	O	P
Spanish, First Year	Cooperative Spanish Test (Elementary)	O	P
Trigonometry	Cooperative Plane Trigonometry	U	Y

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*Developed on Washington University campus for use with Project 1338.

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